

Oregon OSHA – Adopted Changes Hazard Communication Updates to Division 4, Agriculture

Administrative Order 3-2014
Filed and effective August 8, 2014

Text removed is in [~~brackets with line through~~].

Text added is in **bold and underline**.

DIVISION 4, AGRICULTURE

Division 4/B, Definitions

437-004-0100 Universal Definitions.

(1) [~~Universal definitions.]~~These [~~are~~] definitions apply [~~icable~~] throughout Division 4, Agriculture, except that **the** definitions in **Subdivision 4/W, adopted from** 40 CFR 170, Worker Protection Standard, apply to [~~that standard instead of these~~] **the rules within that Subdivision.**

Accepted – Something is [~~“]accepted[”]~~ if:

A[a] nationally recognized testing laboratory has inspected it and found it to conform to specified plans or to procedures of applicable codes[~~];~~ **or**

It is verified by design, evaluation, or inspection by a registered professional engineer; or

It is acknowledged by the authority having jurisdiction, the agency, office, or organization that is responsible for approving specific equipment, materials, installations, or procedures. (Examples of such authorities include the U.S. Department of Transportation, the U.S. Coast Guard, the Oregon Building Codes Division, and the Office of the State Fire Marshal.)

[Adequate — is sufficient for the required purpose.]

Agricultural employer – means any person, corporation, association, or other legal entity ~~[that]~~ **who meets the definition of an employer in ORS 654.005(5) and who:**

Owns or operates an agricultural establishment; **or**

Recruits and supervises employees ~~[or is responsible for the management and condition of]~~ **who work for** an agricultural establishment~~[-];~~ or

~~[Contracts with the owner or operator of an agricultural establishment in advance of production for the purchase of a crop and exercises substantial control over production; or]~~ **Is responsible for the management or condition of, or exercises direction and control over the production on, an agricultural establishment.**

Agricultural establishment – means **a[any] farm, ranch, nursery, [or]greenhouse, or production facility that is a place of employment and is engaged in the activities described in Division 4/A, 437-004-0002 Scope.**

Approved – means acceptable for the purposes of rule compliance, under the following criteria:

It is accepted, or certified, or listed, or labeled or otherwise determined to be safe by a nationally recognized testing laboratory; or

If an installation or equipment is of a kind which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, it has been inspected or tested by another authority having jurisdiction and found to be in compliance with the provisions of the applicable code; or

Custom-made equipment or related installations that are designed and fabricated for a certain intended use by its manufacturer. The employer must keep and make available the test data that is used as the basis of this approval, for inspection.)

Boiling point – The temperature at which the liquid form of a substance changes into a vapor, at a standard atmospheric pressure. The initial boiling point of a substance is determined according to test methods specified in Appendix B to Division 2/Z, 1910.1200, Hazard Communication Standard.

CAS – is the Chemical Abstracts Service Registry Number, a unique numerical identifier assigned by the Chemical Abstracts Service to every chemical described in the open scientific literature.

Capacity – is the maximum load or severity of service (determined by the manufacturer or a qualified engineer)~~[-]~~ that a tool, machine, equipment, structure, or material ~~[may]~~ **is expected to** withstand without failure, deformation, separation or fracture.

Certified – is something that:

~~[(a) w]~~ Was tested and found by a nationally recognized testing laboratory to meet ~~[nationally]~~ recognized standards or to be safe for use in a specified manner, or

~~[(b) i]~~ Is of a kind whose production is periodically inspected by a nationally recognized testing laboratory, and

~~[(c) it bears]~~ **Shows** a label, tag, or other record of certification.

Combustible – A substance or material that is able or likely to catch fire and burn.

Combustible liquid – The “combustible liquid” classification is no longer used in Division 4 rules because it was eliminated by the globally harmonized classification and labeling system (GHS) adopted in OSHA’s Hazard Communication Standard. Any liquid with a flash point of 199.4°F (93 degrees C.) or less is considered to be one of the four categories of flammable liquids. (See “Flammable liquids,” below.)

NOTE: The term “combustible liquid” is still used by the National Fire Protection Association (NFPA) system of classification and by the Oregon State Fire Marshal to classify liquids that will burn but do not ignite as easily as flammable liquids. The NFPA system defines some chemicals as “combustible liquids” that would be included as a category of “flammable liquid” in the OSHA/GHS classification system. (See Appendix A to Subdivision 4/H, 437-004-0720 Flammable Liquids, for a comparison of the GHS and NFPA systems of classification of flammable/combustible liquids.)

~~[is any liquid with a flashpoint at or more than 100 degrees F. (37.8 degrees C.) Combustible liquids are divided into two classes as follows:~~

~~“Class II liquids” include those with flashpoints at or more than 100 degrees F. (37.8 degrees C.) and below 140 degrees F. (60 degrees C.), except any mixture with components with flashpoints of 200 degrees F. (93.3 degrees C.) or higher, the volume of which make up 99 percent or more of the total volume of the mixture.~~

~~“Class III liquids” — are those with flashpoints at or more than 140 degrees F. (60 degrees C.) Class III liquids are subdivided into two subclasses:~~

~~“Class IIIA liquids” include those with flashpoints at or more than 140 degrees F. (60 degrees C.) and less than 200 degrees F. (93.3 degrees C.), except any mixture with components with flashpoints of 200 degrees F. (93.3 degrees C.), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.~~

~~“Class IIIB liquids” include those with flashpoints at or more than 200 degrees F. (93.3 degrees C.). This section does not cover Class IIIB liquids. The term “Class III liquids” means only Class IIIA liquids.~~

~~When a combustible liquid is heated for use to within 30 degrees F. (16.7 de- grees C.) of its flashpoint, handle it according to the requirements for the next lower class of liquids.]~~

Competent person – is a person who, because of training and experience, can identify existing and predictable hazards in equipment, material, conditions or practices; and, who has the knowledge and authority to take corrective steps.

Explosive – something capable of causing damage to the surroundings by chemical reaction. Explosives are defined in Appendix B to §1910.1200 – Physical Hazard Criteria at B.1 EXPLOSIVES.

Farming – Is the [agricultural] production of **agricultural** field crops, [fruits and nuts,] **tree crops**; horticultural specialties, **greenhouse crops; and the production of** livestock[, and animal specialties[-of all types]. [“Farming”] includes **farm labor and management services**; agricultural services **and support activities** (such as soil preparation;[, planting,] **crop cultivation**[g], **protection, and**[crop production,] harvesting;) and, **the basic** [crop] preparation **of the crop or commodity** for market. [“Farming” includes farm labor and management services, landscaping and horticultural services, ornamental shrub and tree services, and greenhouse operations.] **The farming production process is typically completed at the “farm gate” – that is, at the point of first sale or price determination.**

NOTE: Throughout this division, the term “farming,” “agriculture,” [and] “production agriculture,” **and “agricultural operations”** are synonymous.

Flammable – Capable of being easily ignited, burning intensely, or having a rapid rate of flame spread. Flammable substances are defined in Appendix B to §1910.1200 – Physical Hazard Criteria at B.2 FLAMMABLE GASES, B.3 FLAMMABLE AEROSOLS, B.6 FLAMMABLE LIQUIDS, and B.7 FLAMMABLE SOLIDS.

Flammable liquids – are liquids having a flash point at or below 199.4 degrees F. (93 degrees C.) As defined in the globally harmonized system of classification and labeling (GHS) adopted in OSHA’s Hazard Communication Standard, flammable liquids are divided into four categories as follows:

Category 1 includes liquids that have a flashpoint below 73.4 degrees F. (23 degrees C.) and have a boiling point at or below 95 degrees F. (35 degrees C.)

Category 2 includes liquids that have a flashpoint below 73.4 degrees F. (23 degrees C.) and have a boiling point above 95 degrees F. (35 degrees C.)

Category 3 includes liquids that have a flashpoint in a temperature range from at or above 73.4 degrees F. (23 degrees C.) to at or below 140 degrees F. (60 degrees C.)

Category 4 includes liquids that have a flashpoint in a temperature range from above 140 degrees F. (60 degrees C.) to at or below 199.4 degrees F. (93 degrees C.)

NOTE: Examples of some common flammable liquids are:

Category 1: Diethyl ether (solvent sometimes used in starting fluid).

Category 2: Gasoline (Benzene, Ethanol).

Category 3: Kerosene, Stoddard Solvent.

Category 4: Diesel fuel, Naphthalene.

[is any liquid with a flashpoint below 100 degrees F. (37.8 degrees C.), except any mixture with components with flashpoints of 100 degrees F. (37.8 degrees C.) or higher, the total of which

make up 99 percent or more of the total volume of the mixture. Flammable liquids are known as Class I liquids. Class I liquids are divided into three classes as follows:

Class IA includes liquids with flashpoints less than 73 degrees F. (22.8 degrees C.) and a boiling point below 100 degrees F. (37.8 degrees C.).

Class IB includes liquids with flashpoints less than 73 degrees F. (22.8 degrees C.) and a boiling point at or more than 100 degrees F. (37.8 degrees C.).

Class IC includes liquids with flashpoints at or more than 73 degrees F. (22.8 degrees C.) and less than 100 degrees F. (37.8 degrees C.).]

Flashpoint – is the minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with air near the surface of the liquid, as determined by specific testing methods. These test methods are specified in Appendix B to Division 2/Z, 1910.1200, Hazard Communication Standard.

Hazardous Chemical – is any chemical which is classified, under the requirements of the Hazard Communication Standard, as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

NOTE: See Division 2/Z, 1910.1200 Hazard Communication Standard, for more information.

Ignition source – the origin of something that results in a fire or an explosion. Examples include open flames; smoking; cutting and welding; hot surfaces and radiant heat; frictional heat; static, electrical, and mechanical sparks; chemical and physical-chemical reactions; spontaneous ignition; and lightning.

Labeled – [is s]Something **is labeled if:**

[that]It has an attached label, symbol, or other identifying mark of a nationally recognized testing laboratory that [,(a)] makes periodic inspections of the production of such equipment; **or**

[, and (b) whose labeling]The **attached information** indicates compliance with nationally recognized standards or tests to determine safe use in a specified manner.

Listed – is something mentioned in a list that: [,(a)]

[is published by a nationally recognized laboratory that makes periodic inspection of the production of such equipment, and

[, (b) s]States such equipment meets nationally recognized standards or was tested and found safe for use in a specified manner.

Nationally Recognized Testing Laboratory – (NRTL) is defined in §1910.7 Definition and Requirements for a Nationally Recognized Testing Laboratory and OAR 437-002-0007 Oregon Rule on Testing and Certification Program. (Examples of organizations in this category are Factory Mutual Engineering Corporation, and Underwriters' Laboratories.)

Place of employment – is every place [,(a)] (fixed, movable or moving) [,(b)] where [either temporarily or permanently] an employee works or is intended to work. It includes every place where **(either**

temporarily or permanently) there is any activity related to an employer's business, including a labor camp.

NOTE: "Place of employment" does not include a[ny] place where the only employment involves nonsubject workers employed in or about a private home; **or a farm where only the farm's family members are employed.**

Qualified person – is a person who has a recognized degree, certification, professional standing, knowledge, training or experience; and has successfully demonstrated the ability to perform the work, or solve or resolve problems relating to the work, subject matter, or project.

Reasonable means – is what a prudent person, familiar with the circumstances of the industry would do to work in a safe and healthful manner.

Safeguard – **is a**[A]ny form of safety device[;] **or** equipment[;]; personal protective equipment[;]; guard[;] **or** barricade[s;]; warning **device**, [danger-]sign, **or** method; **or a** process prescribed or adopted for the protection of an employee.

Substantial – **means c**[C]onstructed with sufficient strength or installed to provide ample support to withstand loads to which the structure or device may be subjected.

Worker – is identical in every respect to "employee" as defined in ORS 654.005(4) **including**[:]

Any individual, including a minor, whether lawfully or unlawfully employed, who engages to furnish services for a remuneration, financial or otherwise, subject to the direction and control of an employer; and

Any individual who is provided with workers' compensation coverage as a subject worker pursuant to ORS chapter 656, whether by operation of law or by election.

Workplace – See "Place of Employment," above.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

437-004-0150 Standards Organizations.

Division 4 references various standards from the[se] **following** organizations.[-Get copies from:]
More information is available from:

[National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

American National Standards Institute, 1430 Broadway, New York, NY 10018.

Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, IL 60611.

~~Factory Mutual Engineering Corp., PO Box 688, Norwood, MA 02062.~~

~~National Association of Plumbing and Mechanical Officials, 5032 Alhambra Avenue,
Los Angeles, CA 90032.~~

~~American Society of Agricultural Engineers, 2950 Niles Road, PO Box 229, St. Joseph, MI
49085.~~

~~American Society of Mechanical Engineers, Inc., United Engineering Center, 345 East 47th
Street, New York, NY 10017.~~

~~American Society of Heating, Refrigeration, and Air Conditioning Engineers, Inc., 345 East 47th
Street, New York, NY 10017.~~

~~Crane Manufacturers Association of America, Inc., 1 Thomas Circle NW, Washington, DC
20005.~~

~~Society of Automotive Engineers, Inc., 485 Lexington Avenue, New York, NY 10017.~~

~~American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.~~

~~Compressed Gas Association, Inc., 1235 Jefferson Davis Highway, Arlington, VA 22207.~~

~~American Petroleum Institute, 1220 L Street NW, Washington, DC 20005.~~

~~American Welding Society, 550 NW LeJeune Road, PO Box 351040, Miami, FL 33135.~~

~~Rubber Manufacturers Association, 1400 K Street NW, Washington, DC 20005.]~~

(ACGIH) American Conference of Governmental Industrial Hygienists

<http://www.acgih.org/>

1330 Kemper Meadow Drive

Cincinnati, Ohio 45240, USA

Customers/Members Phone: 513-742-2020

Fax: 513-742-3355

(ANSI) American National Standards Institute

<http://www.ansi.org/>

ANSI Standards Store

Customer Service Department

25 W 43rd St, 4th Floor

New York, NY 10036

Phone: (212) 642-4980

Fax: (212) 302-1286

(API) American Petroleum Institute

<http://www.api.org/>

1220 L Street, NW

Washington, DC 20005-4070

(202) 682-8000

(ASABE) American Society of Agricultural and Biological Engineers

<http://www.asabe.org/standards.aspx>

2950 Niles Rd

St. Joseph, MI 49085

Toll-Free: (800) 371-2723

Fax: (269) 429-3852

(ASHRAE) American Society of Heating, Refrigeration, and Air Conditioning Engineers

www.ashrae.org

ASHRAE Bookstore

<http://www.techstreet.com/ashrae/index.html>

3916 Ranchero Dr

Ann Arbor, MI 48108

Phone: (800) 699-9277

Fax: (734) 780-2046

(ASME) American Society of Mechanical Engineers

<http://www.asme.org/>

Two Park Avenue

New York, NY 10016-5990

Phone: (800) 843-2763

ASTM International

(Formerly American Society for Testing and Materials)

<http://www.astm.org>

Sales and Customer Support

PO Box C700

West Conshohocken, PA 19428-2959

Phone: (877) 909-2786

(AWS) American Welding Society

<http://www.aws.org>

AWS Bookstore/Customer Service

13301 NW 47th Ave

Miami, FL 33054

Toll-free: 888-WELDING

Fax: (305) 826-6195

(CGA) Compressed Gas Association

<http://www.cganet.com>

Customer Service

14501 George Carter Way

Suite 103

Chantilly VA 20151

Phone: (703) 788-2700

Fax: (703) 961-1831

(CMAA) Crane Manufacturers Association of America

<http://www.mhi.org/cmaa>

8720 Red Oak Blvd

Suite 201

Charlotte, NC 28217

Phone: (704) 676-1190

Fax: (704) 676-1199

FM Global
(Formerly Factory Mutual Engineering Corporation)
www.fmglobal.com
Customer Service (Resource Catalog)
Phone: (877) 364-6726

(IAPMO) International Association of Plumbing and Mechanical Officials
<http://www.iapmo.org>
4755 E Philadelphia St
Ontario, CA 91761
Phone: (909) 472-4100
Fax: (909) 472-4150

(NFPA) National Fire Protection Association
<http://www.nfpa.org>
1 Batterymarch Park
Quincy, MA 02169-7471
Customer Sales/Member Services
Phone: (800) 344-3555
Fax: (800) 593-6372

(NIOSH) National Institute of Occupational Safety and Health
<http://www.cdc.gov/niosh/>
Centers for Disease Control and Prevention
Clifton Rd. Atlanta
Atlanta, GA 30333
1-800-CDC-INFO (1-800-232-4636)

(RMA) Rubber Manufacturers Association
<http://www.rma.org/publications/>
1400 K Street, NW, Suite 900
Washington, DC 20005
(202) 682-4800

SAE International
(Formerly Society of Automotive Engineers)
<http://www.sae.org>
400 Commonwealth Dr.
Warrendale, PA 15096
Phone: (877) 606-7323
Fax: (724) 776-0790

(UL) Underwriters Laboratories
www.ul.com/
333 Pfingsten Rd.
Northbrook, IL 60062
(847) 272-8800

Stat. Auth.: ORS 654.025(2) and 656.726(4).
Stats. Implemented: ORS 654.001 through 654.295.
Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.
OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

Division 4/H, Hazardous Materials

437-004-0720 Flammable [~~and Combustible~~] Liquids.

(1) Definitions:

Approved – [~~Acceptance or approval by a responsible U.S. Federal agency such as Bureau of Mines, Department of Transportation, U.S. Coast Guard, etc., or by a responsible agency of the State of Oregon, or by a nationally recognized testing laboratory such as Factory Mutual Engineering Corp., or Underwriters' Laboratories, Inc. which issue approvals for such equipment.~~]**See Universal Definitions in 4/B, OAR 437-004-0100.**

Closed container – A container sealed with a lid or other device that prevents the loss of liquid or vapor at ordinary temperatures.

Combustible – A substance or material that is able or likely to catch fire and burn.

Combustible liquids – See definition [~~in Subdivision 4/B, OAR 437-004-0100~~]**of “Flammable liquids” below.**

NOTE: [~~Examples of some common combustible liquids are diesel fuel, fuel oils, kerosene and Stoddard Solvent.~~]**When Oregon OSHA revised the Hazard Communication Standard to align with the Globally Harmonized System (GHS) of classification and labeling of chemicals, the term “combustible liquid” was eliminated. However, the term is still used by the National Fire Protection Association (NFPA) and by the Oregon State Fire Marshal. The NFPA system classifies some chemicals as “combustible liquids” that OSHA classifies as “flammable liquids.”**

Explosive – something capable of causing damage to the surroundings by chemical reaction. Also, see Universal Definition in 4/B, OAR 437-004-0100.

Flammable – **something c**[C]apable of being easily ignited, burning intensely, or having a rapid rate of flame spread. **Also, see Universal Definitions in 4/B, OAR 437-004-0100.**

Flammable liquids – **are liquids having a flash point at or below 199.4 degrees F. (93 degrees C.) As defined in the globally harmonized system of classification and labeling (GHS) adopted in OSHA’s Hazard Communication Standard, flammable liquids are divided into four categories as follows:**

Category 1 includes liquids that have a flashpoint below 73.4 degrees F. (23 degrees C.) and have a boiling point at or below 95 degrees F. (35 degrees C.)

Category 2 includes liquids that have a flashpoint below 73.4 degrees F. (23 degrees C.) and have a boiling point above 95 degrees F. (35 degrees C.)

Category 3 includes liquids that have a flashpoint in a temperature range from at or above 73.4 degrees F. (23 degrees C.) to at or below 140 degrees F. (60 degrees C.)

Category 4 includes liquids that have a flashpoint in a temperature range from above 140 degrees F. (60 degrees C.) to at or below 199.4 degrees F. (93 degrees C.)

NOTES: See Appendix A to OAR 437-004-0720 Flammable Liquids for a comparison of the GHS/Hazard Communication classification system with the NFPA classification system. Examples of flammable liquids include:

Category 1: Diethyl ether (solvent used in some starting fluids)

Category 2: Gasoline, Benzene

Category 3: Kerosene, Stoddard Solvent

Category 4: Diesel fuel

[See definition in 4/B, OAR 437-004-0100.

NOTE: Examples of some common flammable liquids are:

(A) Ethers and other highly volatile liquids (Class IA).

(B) Gasolines (Class IB).

(C) Methyl Alcohol (Class IC).]

Portable tank – A closed container with a liquid capacity more than 60 U.S. gallons (230 liters) and not intended for fixed installation.

Safety can – An approved closed container, of not more than 5 gallons (20 liters) capacity, with a ~~[flash-arresting screen,]~~ spring-closing lid and spout cover, and designed so that it will safely relieve internal pressure when subjected to fire.

~~[Salamander – A self-contained heating device using combustibles and not vented to the outside atmosphere.~~

~~NOTE: Catalytic-type heaters are included in this definition as well as flame-type heaters.]~~

(2) Storage and transporting.

(a) The storage of flammable ~~[and combustible]~~ liquids in containers with a capacity of 60 gallons (230 liters) or more must be in fixed or portable tanks. Such tanks must meet the material and design requirements in ~~NFPA~~~~[ational Fire Protection Association Bulletins NR-340 or NR-395]~~ **30, Flammable and Combustible Liquids Code, 1996 edition.**

NOTE: **Tanks meeting the requirements of a more recent edition of the NFPA 30 code will also be considered to be in compliance with this rule.** ~~[The NFPA bulletins are generally kept at every Fire Department office, and in the offices of the Occupational Safety and Health Division of the Department of Consumer and Business Services. Should you desire information from the bulletins, contact your local fire chief or fire marshal, or write to:~~

~~Occupational Safety and Health Division
Department of Consumer and Business Services
Attn: Technical Services Section
350 Winter Street NE
Salem, Oregon 97301-3882]~~

(b) Storage of flammable [~~and combustible~~] liquids in containers of less than 60 gallons (230 liters) capacity must be in one of the following **listed in Table H-1**:

~~[(A) Closed metal drums which meet DOT requirements.~~

~~(B) Closed metal containers.~~

~~(C) Approved metal safety cans.~~

~~(D) Approved closed plastic containers of not more than 5 gallons (20 liters) capacity and bearing an approval label stamped or molded into the container.]~~

Table H-1

<u>Maximum Allowable Size of Portable Containers and Portable Tanks for Flammable Liquids</u>				
<u>Container type</u>	<u>Category 1</u>	<u>Category 2</u>	<u>Category 3</u>	<u>Category 4</u>
<u>Safety cans or Approved containers used for petroleum fuels¹</u>	<u>2 gal.</u>	<u>5 gal.</u>	<u>5 gal.</u>	<u>5 gal.</u>
<u>Glass, or plastic containers approved for use with flammable liquids² (other than “approved, containers used for petroleum fuels”)</u>	<u>1 pint (pt.)</u>	<u>1 quart (qt.)</u>	<u>1 gallon (gal.)</u>	<u>1 gal.</u>
<u>DOT drums (Metal drums meeting Dept. of Transportation specifications)</u>	<u>60 gal.</u>	<u>60 gal.</u>	<u>60 gal.</u>	<u>60 gal.</u>
<u>Closed, metal containers (other than DOT drums)</u>	<u>1 gal.</u>	<u>5 gal.</u>	<u>5 gal.</u>	<u>5 gal.</u>
<u>Approved, portable tanks</u>	<u>660 gal.</u>	<u>660 gal.</u>	<u>660 gal.</u>	<u>660 gal.</u>

NOTES:

¹Approved containers used for petroleum fuels – metal or plastic containers that bear an approval label stamped on or molded into the container; meeting the requirements of and used for petroleum products within the scope of one or more of the standards specified as an acceptable container in NFPA 30, 1996 (or a more recent edition.)

²The “Glass or plastic containers approved for use with flammable liquids” container size limits in Table H-1 do not apply to medicines, beverages, foodstuffs, cosmetics, and other common consumer items when they are packaged subject to consumer product safety standards or other accepted practices.

(c) Store flammable [~~or combustible~~] liquids in a manner that will not obstruct, impede, or limit use of exits, stairways, or areas normally used for safe exit routes.

(d) Flammable [~~or combustible~~] liquids transported in passenger-type vehicles (cars, trucks, buses, carry-alls, crew transporters, etc.) must be in [~~approved metal~~] safety cans, or approved containers used for petroleum fuels [~~containers of not more than 5 gallons (20 liters) capacity~~]. Carry these containers outside the passenger compartment, secured in a ventilated area that prevents the accumulation of flammable or explosive vapors, and that protects against rupture in a collision.

(3) Tanks and containers.

(a) Clearly mark tanks and containers as required in the Hazard Communication Standard, OAR 437-004-9800(5) Labels and other Forms of Warning. [~~with the name of the product in them and with the following statement "No Smoking or Open Flame."~~] Mark fill-risers and pumps or discharge devices with the name of the product they contain.

NOTE: Division 4/L, 437-004-1440 requires employers to post signs reading, "No Smoking or Open Flame" (or "FLAMMABLE – KEEP FIRE AWAY") in areas used for fueling, and where flammable liquids are received, dispensed, used, or stored.

(b) Protect pumps, containers, tanks, and supports for tanks used for [~~combustible or~~] flammable liquids against collision damage.

(c) Mount aboveground tanks on supports that are strong and stable enough to safely support the load. Provide enough clearance to permit inspection and maintenance as well as clearance from the ground.

[~~NOTE: If you have or intend to install an in-ground tank, refer to the Department of Environmental Quality for standards.~~]

(4) Tanks elevated for gravity discharge.

(a) The gravity discharge outlet must have an approved hose with a self-closing valve at the discharge end.

(b) The bottom opening for gravity discharge must have a shut-off valve adjacent to the tank shell that can be closed manually. Underground tanks from which fuel flows under gravity must have a manual shut-off valve between the tank and the hose.

(5) Tanks with top openings only.

(a) Tanks with all openings in the top must have a firmly attached, approved pumping device and an approved hose.

(b) Do not use siphons and discharge devices requiring pressure in the container.

(c) There must be an effective anti-siphoning device in the pump discharge; tank plumbing must not permit fuel to siphon or flow from the tank when the pump is not operating, even though discharge nozzle valves or line valves are open.

(6) Dispensing and fueling.

(a) Maintain pumping devices or faucets used to dispense flammable ~~[and combustible]~~ liquids so they do not leak enough material to puddle or cause a fire hazard.

(b) Fuel tanks and pumps from which ~~[Class-I]~~**flammable** liquids are dispensed must have an approved hose long enough to fill containers.

(A) Hoses must have a metal nozzle at the discharge end.

(B) Hoses must incorporate an effective electrical interconnect between the nozzle and the supply tank.

(c) Do not dispense ~~[Class-I]~~**flammable** liquids into or from portable or stationary metal tanks or drums ~~[of over 50 gallons net capacity]~~ unless there is an effective electrical interconnect (bond) between the source and the receiving containers.

NOTES:

The electrical interconnect may be made by assuring that the metal nozzle of the approved hose is in contact with the metal fill neck or bung of the receiving container during filling.

Both portable metal and portable plastic containers should be placed on a grounded surface when filling.

(d) Shut off internal combustion engines, except diesel engines, while refueling.

(7) Handling and use of flammable ~~[and combustible]~~ liquids.

(a) Control leakage or the escape of flammable ~~[and combustible]~~ liquids and use measures to prevent accidental spills. **If a spill occurs, [P] promptly clean [and neutralize] any** soaked or contaminated areas.

~~[NOTE: Other agencies may have rules pertaining to the cleaning and neutralizing of spills.]~~

NOTE: If you have a release or spill of any hazardous substance at your workplace and you expect your employees to help clean it up, other rules may apply:

Division 4/Z, 437-004-9800, Hazard Communication Standard for Agricultural Employers.

Division 4/H, 437-004-0950 Hazardous Waste Operations and Emergency Response.

(b) Use flammable liquids, including gasoline, only where there is no open flame or other source of ignition within 50 feet of the operation, or within the possible path of vapor travel.

NOTES:

This rule does not prohibit the refueling of orchard heaters used outdoors while adjacent heaters are burning; **or the field (outdoor) refueling of portable tools while other tools are in operation.**

Division 4/L, 437-004-1430 requires employers to forbid smoking, open flames, the use of spark-producing devices or tools, and other sources of fire or ignition in fueling areas; where fuel systems for internal combustion engines are serviced; and where flammable liquids are received, dispensed, used, or stored.

(c) Do not use flammable liquids, including gasoline, indoors as a solvent or for cleaning purposes unless there is adequate ventilation to ~~bring and~~ keep the concentration[s] of ~~explosive~~ vapors in the atmosphere below 20 percent of its lower explosive limit **(LEL)**.

NOTE: In addition to the hazards of fire and explosion, the potential health hazards from exposure to flammable liquids through skin contact or breathing the vapors should also be avoided.

(d) Keep flammable liquids, including gasoline, in closed containers when not in use.

(8) Heating devices that use flammable ~~and combustible~~ liquids.

NOTE: ~~Heating devices and associated equipment must conform with t]The [State of] Oregon~~ **State Mechanical Specialty Code and the Oregon Fire Code have standards for space-heating devices and associated equipment** ~~[Mechanical and Life Safety Code, Vol. 2 of the Uniform Building Code].~~

(a) Set heaters, when in use, on a stable, level base; or mount them as specified by the manufacturer.

(b) Heaters not suitable for use on wood floors must rest on heat insulating material of at least 1-inch concrete, or equivalent. The insulating material must extend beyond the heater 2 feet or more in all directions.

(c) Locate heaters used near combustible tarpaulins, canvas, or similar coverings at least 10 feet from the coverings and securely fasten them to prevent ignition or upsetting of the heater due to wind action on the covering or other material.

(d) Liquid-fired heaters must have a primary safety control to stop the flow of fuel in the event of flame failure.

NOTE: Barometric or gravity oil feed is not a primary safety control.

(e) Do not use heating devices without built-in means to effectively control the fuel supply ~~or~~ **and** the flame in occupied buildings.

(f) Vent heating devices (that use ~~combustibles~~ **flammable fuels** inside occupied buildings) to the outside atmosphere except when:

(A) The heating device has an "approval label" issued by the American Gas Association or a nationally recognized testing laboratory indicating **it is approved** ~~at~~ for use as an unvented heater in occupied buildings; or,

(B) Prior to entry, test the atmosphere inside buildings where unvented heating devices are in use to assure it is free of hazardous levels of carbon monoxide. ~~[- or,]~~

~~[(C) Workers who must enter buildings where unvented heating devices are in use must wear an approved respiratory protection device that provides a safe breathing air.~~

NOTE: ~~See OAR 437-004-0610, Ventilation.]~~

(g) Fuel-burning devices must have means that prevent the emission of sparks or other sources of ignition.

(9) Design, construction, and capacity of storage cabinets.

(a) Maximum capacity. Do not store more than 60 gallons of ~~[Class I or Class II liquids, nor]~~ **Category 1, 2, or 3 flammable liquids, or** more than 120 gallons of ~~[Class III]~~ **Category 4 flammable** liquids in a storage cabinet.

(b) Fire resistance. Storage cabinets must meet NFPA 30, ~~[-]~~1996 **edition** standards. Label **storage** cabinets with “No Smoking or Open Flame.”

NOTES:

Storage cabinets meeting the requirements of a more recent edition of the NFPA 30 code will also be considered to be in compliance with this rule.

Storage cabinets labeled “FLAMMABLE – KEEP FIRE AWAY” are also in compliance with this rule.

(10) Design and construction of inside storage rooms.

(a) Construction.

(A) Construct inside storage rooms to meet the required fire-resistive rating in NFPA 30, ~~[-]~~1996 **edition**.

(B) Such construction must comply with the test specifications in Standard Methods of Fire Tests of Building Construction and Materials, NFPA 251, ~~[-]~~1969 **edition**.

(C) Where there is an automatic sprinkler system, design and install the system according to accepted engineering practices.

(D) Openings to other rooms or buildings must have noncombustible, liquid-tight, raised sills or ramps at least 4 inches high, or the floor in the storage area must be at least 4 inches below the surrounding floors. A permissible alternate to the sill or ramp is an open-grated trench inside the room that drains to a safe location.

(E) Openings must have approved self-closing fire doors. The room must be liquid-tight where the walls join the floor.

(F) Where other parts of the building or other properties are exposed, protect windows as required in the Standard for Fire Doors and Windows, NFPA ~~[No.]~~80, ~~[-]~~1968 **edition**, for Class E or F openings.

(G) Wood at least 1-inch nominal thickness is acceptable for shelving, racks, dunnage, scuffboards, floor overlay, and similar installations.

NOTES: The following will also be considered to be in compliance with this rule: Inside storage rooms meeting the requirements of a more recent edition of the NFPA 30 code.

Construction materials meeting the specifications in a more recent edition of NFPA 251 code.

Windows and openings protected as required by a more recent edition of the NFPA 80 code.

(b) Rating and capacity. Storage in inside storage rooms must comply with Table [1]**H-2, below.**

Table [4]**H-2** – Storage In Inside Rooms

Fire protection ¹ provided	Fire resistance	Maximum <u>room</u> size	Total Allowable quantities (gals/sq. ft./floor area)
Yes	2 hours	500 sq. ft.	10
No	2 hours	500 sq. ft.	5
Yes	1-hour	150 sq. ft.	4
No	1-hour	150 sq. ft.	2

¹ Fire protection system must have sprinklers, water spray, carbon dioxide, or other system.

NOTES:

Division 4/L, 437-004-1430 Sources of Fire requires that electric lights, equipment, and wiring used where there may be flammable or explosive gases or vapors must comply with the State Electrical Specialty Code.

Division 4/S, 437-004-3075 Agricultural Buildings with Special Hazards has additional electrical requirements.

~~[(c) Wiring. Electrical wiring and equipment in inside storage rooms used for Class I liquids must comply with OAR 437-004-2840 Subdivision 4/S for Class I, Division 2 Hazardous Locations; for Class II and Class III liquids, and be approved for general use.]~~

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

Appendix A to OAR 437-004-0720 Flammable Liquids (Nonmandatory)

A comparison of the Globally Harmonized System (GHS) of classification for Flammable Liquids and the National Fire Protection Association (NFPA) system of classification for Flammable and Combustible Liquids:

<u>GHS Classification And Category</u>	<u>Flash Point (Boiling Point)</u>	<u>NFPA Classification</u>	<u>NFPA Term</u>	<u>Flash Point (Boiling Point)</u>	<u>Examples</u>
<u>Flammable Liquid Category 1</u>	<u>Below 73.4°F (At or below 95°F)</u>	<u>Class IA</u>	<u>Flammable Liquid</u>	<u>Below 73°F (Below 100°F)</u>	<u>Diethyl ether (solvent used in some starting fluids)</u>
<u>Flammable Liquid Category 2</u>	<u>Below 73.4°F (Above 95°F)</u>	<u>Class IB</u>	<u>Flammable Liquid</u>	<u>Below 73°F (At or above 100°F)</u>	<u>Gasoline, toluene, benzene, acetone, ethanol</u>
<u>Flammable Liquid Category 3</u>	<u>Between 73.4°F and 140°F</u>	<u>Class IC</u>	<u>Flammable Liquid</u>	<u>At or above 73°F (Below 100°F)</u>	<u>Kerosene; m-, o-, p-xylene</u>
		<u>Class II</u>	<u>Combustible Liquid</u>	<u>At or above 100°F</u>	<u>Stoddard solvent, hydrazine</u>
<u>Flammable Liquid Category 4</u>	<u>Above 140°F but not more than 199.4°F</u>	<u>Class IIIA</u>	<u>Combustible Liquid</u>	<u>At or above 140°F</u>	<u>Diesel fuel, naphthalene</u>
<u>Not a flammable liquid if Flash Point is greater than 199.4°F.</u>		<u>Class IIIB</u>	<u>Combustible Liquid</u>	<u>At or above 200°F</u>	<u>Glycerin (mist)</u>

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

437-004-0725 Spray Finishing.

If you use ~~[have]~~ a ~~["]spray booth["]~~ or a ~~["]spray room["]~~ or do production-level spray~~[ing]~~ **finishing**, you must follow the rules in **Division 2/H**, ~~[OAR 437-002-1910.107, Spray Finishing Using Flammable and Combustible Liquids, and]~~ OAR 437-002-0107, Spray Finishing.

NOTE: ~~[This does not apply to casual spraying such as touch-up work, small items, or parts of vehicles.]~~ **The Spray Finishing rules do not apply to outdoor spray applications to buildings, tanks, or other similar structures; or to small, portable, spray apparatus that is not used repeatedly in the same location.**

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

437-004-0950 Hazardous Waste Operations and Emergency Response. **HAZWOPER**

~~[When you have a chemical spill and you expect your employees to clean it up or help clean it up, there are circumstances that might put the work under the scope of Subdivision 2/H, Hazardous Waste Operations and Emergency Response, and the rules of other government agencies like the Department of Environmental Quality.~~

~~The most important consideration in determining your responsibilities is the information on the MSDS for the spilled material. If the characteristics of the chemical or the instructions for handling and cleanup on the MSDS make the work fall outside the scope of "routine tasks" as defined in your written hazard communication program, then follow OAR 437-002-1910.120, Hazardous Waste Operations. One of the other major factors is the amount of the material spilled and what it contacted such as concrete, soil or agricultural products. Another major determinant is the method of clean-up. There may be other factors that make the work fall outside the definition of "routine tasks" and into the scope of OAR 437-002-1910.120, Hazardous Waste Operations.~~

~~For your convenience, here is a reprint of the scope from OAR 437-002-1910.120, Hazardous Waste Operations so that you will know if circumstances place you under its jurisdiction.~~

~~(a) Scope, application, and definitions.~~

~~(1) Scope. This section covers the following operations, unless the employer can demonstrate that the operation does not involve employee exposure or the reasonable possibility for employee exposure to safety or health hazards:~~

~~(i) Clean-up operations required by a governmental body, whether Federal, state, local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA NPL, and initial investigations of government identified sites which are conducted before the presence or absence of hazardous substances has been ascertained;~~

~~(ii) Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 et seq);~~

- (iii) Voluntary clean-up operations at sites recognized by Federal, state, local or other governmental bodies as uncontrolled hazardous waste sites;
- (iv) Operations involving hazardous waste that are conducted at treatment, storage, disposal (TSD) facilities regulated by 40 CFR Parts 264 and 265 pursuant to RCRA; or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations; and
- (v) Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.]

(1) If an agricultural employer requires employees to respond to an emergency release of a hazardous chemical with a reasonable possibility for employee exposure to safety or health hazards, that response activity must be in compliance with the applicable sections of Division 2/H, 1910.120, Hazardous Waste Operations and Emergency Response.

(2) Agricultural employers whose activities include clean-up operations involving hazardous waste, including those conducted at a treatment, storage, and disposal (TSD) facility, are subject to the applicable requirements in Division 2/H, 1910.120, Hazardous Waste Operations and Emergency Response.

NOTES:

There are two primary considerations for most agricultural employers to determine if the HAZWOPER rules apply to you:

(1) Do you expect your employees to respond to spills of hazardous chemicals in a way that involves a reasonable possibility of exposure to safety or health hazards? (If NO, the HAZWOPER rules do not apply.)

(2) If YES, would your employees respond only to an incidental release of a hazardous chemical; or, to an emergency release of a hazardous chemical?

(a) IF you expect your employees to respond only to an incidental release (defined as a situation where the spilled substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate area, or by maintenance personnel;) and there is no potential safety or health hazard (such as fire, explosion, or chemical exposure;) THEN, the HAZWOPER RULES DO NOT APPLY. However, you must train and equip employees who are expected to respond to incidental releases to safely handle that type of non-routine task as required by Division 4/Z, 437-004-9800, Hazard Communication Standard for Agricultural Employers.

(b) IF you expect your employees to respond to an emergency release (defined as an occurrence that results in, or is likely to result in an uncontrolled release of a hazardous substance; or, a situation that requires a response effort by employees from outside the immediate release area, or by other designated responders such as mutual-aid groups or local fire departments;) THEN, the HAZWOPER RULES APPLY. Agricultural employers who expect their employees to respond to these types of emergencies are required to follow the sections in the HAZWOPER rules that apply to emergency releases “without regard to the location of the

hazard.” [See Division 2/H, 1910.120 (g) Emergency responses to hazardous substance releases.]

The best source of information about any chemical in the workplace (including recommended personal protective equipment and procedures for spill-response) is often the chemical’s Safety Data Sheet (SDS.)

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

Division 4/L, Fire

437-004-1430 Sources of Fire.

(1) Definitions. **These terms are used in Subdivision 4/L Fire:**

~~[Approved — Acceptance or approval by a federal agency such as Bureau of Mines, Department of Transportation, U.S. Coast Guard, etc., or an agency of the State of Oregon or a nationally recognized testing laboratory that issues approvals for such equipment.]~~

Closed container – A container sealed with a lid or other device that prevents the loss of liquid or vapor at ordinary temperatures.

~~Combustible [liquids] – [See the universal definitions in Subdivision 4/B, OAR 437-004-0100.]~~ **A substance or material that is able or likely to catch fire and burn.**

~~[NOTE: Examples of common combustible liquids are diesel fuel, fuel oils, kerosene and Stoddard Solvent.]~~

Explosive – something capable of causing damage to the surroundings by chemical reaction.

Flammable – **Something** ~~[C]~~capable of being easily ignited, burning intensely or having a rapid rate of flame spread.

~~[Flammable liquids – See the universal definitions in Subdivision 4/B, OAR 437-004-0100.]~~

~~[NOTE: ——— Examples of common flammable liquids are:~~

- ~~(1) ——— Ethers and other highly volatile liquids (Class IA).~~
- ~~(2) ——— Gasolines (Class IB).~~
- ~~(3) ——— Methyl Alcohol (Class IC).]~~

Flammable liquids – **are liquids having a flash point at or below 199.4 degrees F. (93 degrees C.) As defined in the globally harmonized system of classification and labeling (GHS) adopted in OSHA’s Hazard Communication Standard, flammable liquids are divided into four categories.**

NOTE: Examples of some common flammable liquids are:

Category 1: Diethyl ether (solvent sometimes used in starting fluid).

Category 2: Gasoline (Benzene, Ethanol).

Category 3: Kerosene, Stoddard Solvent.

Category 4: Diesel fuel, Naphthalene.

NOTE: Additional information can be found in Division 4/B, 437-004-0100 Universal Definitions.

(2) Store combustible waste material, including oily rags in covered metal receptacles.

(3) If using electric lights, equipment, and wiring where there may be flammable or explosive gases, vapors, mists, dust or fibers they must comply with the State Electrical Specialty Code.

NOTE: See additional electrical requirements in Division 4/S, OAR 437-004-3075 Agricultural Buildings with Special Hazards.

(4) Locate internal combustion engines so that there is a clearance of at least 6 inches between exhausts and exhaust piping and combustible material.

(5) Do not allow smoking, open flames, the use of spark-producing devices or tools not approved for use in such areas, and other sources of ignition:

(a) In fueling areas.

(b) When servicing fuel systems for internal combustion engines.

(c) When receiving or dispensing flammable [~~or combustible~~] liquids.

(d) Where using flammable [~~or combustible~~] liquids.

(e) Where storing flammable [~~or combustible~~] liquids.

(f) Areas that may have flammable or explosive gases, vapors, mists, dust, fibers or flyings.

NOTES:

- Other sources of ignition include cutting and welding; grinding hot surfaces; frictional heat; static, electrical and mechanical sparks; spontaneous ignition including heat producing chemical reactions; and radiant heat.

[NOTE:]

- There are more detailed standards for:
[~~†~~]The use and storage of flammable [~~and combustible~~] liquids [~~and~~] **in 4/H, OAR 437-004-0720;**
The use of liquefied petroleum gas (LPG) in 4/H, OAR 437-004-07[2]80 and 437-004-0790; [~~, of this division.~~]
The prevention of f[ire] prevention standards for welding operations are in 4/Q, OAR 437-004-2310.

Stat. Auth.: ORS 654.025(2) and 656.726(4).
Stats. Implemented: ORS 654.001 through 654.295.
Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.
OR-OSHA Admin. Order 3-2014, 8/8/14, ef. 8/8/14.

437-004-1440 Required Postings.

~~[(1) Definitions.~~

~~Combustible liquids—See the universal definitions in Subdivision 4/B, OAR 437-004-0100.~~

~~NOTE: Examples of common combustible liquids are diesel fuel, fuel oils, kerosene and Stoddard Solvent.~~

~~Flammable—Capable of being easily ignited, burning intensely or having a rapid rate of flame spread.~~

~~Flammable liquids—See the universal definitions in Subdivision 4/B, OAR 437-004-0100.~~

~~NOTE: Examples of common flammable liquids are:~~

~~(1) Ethers and other highly volatile liquids (Class IA).~~

~~(2) Gasolines (Class IB).~~

~~(3) Methyl Alcohol (Class IC).~~

~~(2)]Post signs reading, “No Smoking or Open Flame,” in all areas:~~

~~([a]1) For fueling;~~

~~([b]2) For receiving or dispensing flammable or [combustible-]liquids;~~

~~([c]3) For use or storage of flammable [or combustible]liquids; or~~

~~([d]4) Where there may be flammable or explosive gases, vapors, mists, dust, fibers or flyings.~~

NOTE: Signs reading “FLAMMABLE – KEEP FIRE AWAY” will also be in compliance with this rule.

Stat. Auth.: ORS 654.025(2) and 656.726(4).
Stats. Implemented: ORS 654.001 through 654.295.
Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.
OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

437-004-1450 Extinguishers.

NOTE: The Oregon Office of State Fire Marshal and local fire authorities also have rules that apply to portable fire extinguishers.

~~[(1) Definitions.]~~

~~[Combustible liquids—See the universal definitions in Subdivision 4/B, OAR 437-004-0100.~~

~~NOTE: Examples of common combustible liquids are diesel fuel, fuel oils, kerosene and Stoddard Solvent.~~

~~Flammable—Capable of being easily ignited, burning intensely or having a rapid rate of flame spread.~~

~~Flammable liquids—See the universal definitions in Subdivision 4/B, OAR 437-004-0100.~~

~~NOTE: Examples of common flammable liquids are:~~

- ~~(1) Ethers and other highly volatile liquids (Class IA).~~
- ~~(2) Gasolines (Class IB).~~
- ~~(3) Methyl Alcohol (Class IC).~~

~~(2)1~~ Provide the class of fire extinguishers designed for use on the class of fire potential in the work area.

NOTE: To make it easy to use the right extinguisher, the NFPA **10** Extinguisher Standard ~~[classifies fires into four classes. They are:]~~**uses the following system of classification:**

Class A: Fires of ordinary combustible materials (such as wood, cloth, paper, rubber, and many plastics) requiring the heat-absorbing (cooling) effects of water, water solutions or the coating effects of certain dry chemicals that retard burning.

Class B: Fires of flammable ~~[or combustible]~~ liquids, flammable gases, grease~~[s]~~ and similar materials where extinguishment is best done by excluding air (oxygen), inhibiting the release of combustible vapors or interrupting the combustion chain reaction.

Class C: Fires of energized electrical equipment where safety to the operator requires the use of electrically nonconductive extinguishing agents. (Note: For nonenergized electrical equipment, Class A or B extinguishers may be best.)

Class D: Fires of certain combustible metals, such as magnesium, titanium, zirconium, sodium, potassium, etc., requiring a heat-absorbing extinguishing medium not reactive with the burning metals.

~~(3)2~~ Original labels and marking on extinguishers must remain attached and legible.

~~(4)3~~ Mount fire extinguishers on hangers, brackets, in cabinets or on shelves. The maximum height of the top of the extinguisher above the floor is:

Weight of Unit	Height of Top
40 lbs. or less	5 ft.
Over 40 lbs.	3 1/2 ft.

~~(5)4~~ Do not obstruct fire extinguishers. They must be in plain sight or clearly mark their location.

~~(6)5~~ Paths to and space in front of fire extinguishers must be clear and free from obstruction.

~~(7)6~~ Inspect fire extinguishers yearly or more often as needed to keep them usable and fully charged.

~~(8)7~~ Do not use fire extinguishers with carbon tetrachloride, chlorobromomethane or other toxic vaporizing fluids.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

437-004-1460 Fire Prevention Plan.

(1) The plan must be in writing, be kept in the workplace, and be available to employees. Employers with **10 or** fewer ~~than 14~~ permanent, year-around workers may have a verbal plan.

(2) The fire prevention plan must include at least these parts:

- (a) Procedures to control accumulations of flammable ~~and~~**or** combustible waste materials;
- (b) Procedures for regular maintenance of safeguards installed on heat producing equipment to prevent accidental ignition of combustible materials;
- (c) Procedures for reporting possible fire producing situations.

(3) The employer must:

- (a) Inform employees of the fire hazards in their work areas; and
- (b) Review with each employee, new to a job, those parts of the fire prevention plan necessary for ~~self-~~protection.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

437-004-1470 **Employee Equipment and** Training.

(1) If workers are expected or required to fight fires, their level of training and the fire fighting equipment they use must be adequate for the level of fire fighting involvement expected or required by the employer.

(2) The employer must provide all needed equipment and training at no cost to employees and be in compliance with Division 2/L, OAR 437-002-0182 Oregon Rules for Fire Fighters~~;~~; 1910.155 Fire Protection~~;~~; and 1910.156 Fire Brigades.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 9-2006, f. 9/22/06, ef. 9/22/06.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

Division 4/N, Material Handling

437-004-1680 Storage of Hazardous Chemicals.

(1) Store hazardous chemicals:

(a) Separately, to prevent [if they could cause]hazardous reactions. Label **storage areas by category to prevent the mixing of incompatible types of chemicals.** **(Examples of categories include: flammable liquids, acids, bases oxidizers.)**

(b) In conformance with manufacturer's instructions on the label or Safety Data Sheet (SDS) to prevent conditions that could adversely affect container integrity or product stability.

(c) Separate from food and personal items to prevent contamination.

(d) Separate from sources of ignition. In locations where flammable vapors may be present, take precautions to prevent fires by eliminating or controlling sources of ignition.

NOTES:

Division 4/L, 437-004-1440, requires that signs reading "No Smoking or Open Flame" or "FLAMMABLE – KEEP FIRE AWAY" be posted in areas where flammable liquids are received, stored or dispensed.

Chemical storage areas should comply with appropriate state and local fire codes. Identify chemical storage buildings with a sign in accordance with NFPA 704.

Examples of ignition sources include open flames; smoking; cutting and welding activities; hot surfaces and radiant heat; frictional heat; static, electrical, and mechanical sparks; and, chemical and physical/chemical reactions.

~~[(2) Store all hazardous chemicals in conformance with instructions on their packaging, label or MSDS.]~~

~~[(3)2] Ventilate storage areas, [before employees enter, when]as needed to keep air contaminants below 25 percent of the lower [exposure]explosive limit (LEL);~~

NOTE: ~~[and below the p]~~Permissible exposure ~~[levels]~~limits (PELs) **for substances listed** in 4/Z, OAR 437-004-9000, Air Contaminants, **also apply.**

~~[(4)3] Provide natural or artificial lighting equal to 20 foot-candles for safe entry~~ **into the storage area and to permit identification of chemical containers**~~[and removal of chemicals].~~

(~~5~~) **4**) Storage, handling, and removal of hazardous chemical[s] containers must not cause hazards to workers.

NOTES: Other Division 4 rules with requirements that may apply to chemical storage areas include:

4/H: OAR 437-004-0720 Flammable Liquids. [~~NOTE: When dispensing a flammable or combustible liquid you must comply with OAR 437-004-0720, Flammable and Combustible Liquids, Subdivision 4/H. NOTE: Chemical storage must comply with appropriate state and local fire codes, NFPA 34 and OAR 437-004-0720, Flammable and Combustible Liquids, Subdivision 4/H.~~]

4/H: OAR 437-004-0950 Hazardous Waste Operations and Emergency Response, when employees are required to cleanup certain emergency chemical spills. [~~NOTE: Cleanup of some chemical spills may fall under the standards in 4/H, OAR 437-004-0950, Hazardous Waste Operations and Emergency Response.~~]

4/K: OAR 437-004-1305(5) Emergency eyewashes and shower equipment, if required for emergency decontamination.

4/L, Fire: OAR 437-004-1430 through 1470, when storing or dispensing flammable liquids.

4/N: OAR 437-004-1610 General Requirements.

4/S, Electricity: OAR 437-004-2810 through 437-004-3075. [~~NOTE: Electrical wiring in the chemical storage area must comply with 4/S, OAR 437-004-2810 through OAR 437-004-3075.~~]

(~~5~~) The(~~se~~) following additional requirements apply [~~for storage and handling of~~]where storing [~~R~~]Restricted [~~u~~]Use [~~p~~]Pesticides:

NOTE: Restricted Use Pesticides (RUPs) are a category of pesticide products that pose a higher risk to people, animals, or the environment. They can only be purchased by and used under the supervision of a person with a pesticide license.

(~~6~~) **a**) Lock the storage area to prevent access by unauthorized [~~employees~~]persons.

(~~7~~) **b**) Provide separate sections within the storage area for each category of pesticide product. (Examples include: insecticides, herbicides, fungicides, fumigants.) Label these areas by general category. [~~There must be separate areas within a storage facility for each category of pesticide. Label these areas by general category.~~]

Note: Examples of labeling categories are herbicides, fungicides and insecticides. If other types of hazardous or reactive chemicals are stored in the same room, include additional categories, such as fertilizer, acids, bases or oxidizers.]

NOTE: The goal of separation is to prevent hazards to employees caused by the mixing of incompatible chemicals and the contamination of one type of product, or storage surface with a more toxic product due to a leak or spill.

(~~[8]~~**c**) Floors and shelves must ~~[have coatings or sealants]~~ **be constructed of a chemically-resistant material; or coated, sealed, or provided with secondary containment** that prevents the absorption of the hazardous chemicals.

(~~[9]~~**d**) When the storage area contains enough chemical[s] that a leak or spill could cause the material to leave the confines of the building, there must be **sufficient containment or other** ~~[methods or]~~ means to contain ~~[the material]~~ **any leaks or spills within the storage area**. ~~[This does not apply to storage structures in areas where there are normally no employees.]~~

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

Division 4/Z, Chemical/Toxins

437-004-9800 Hazard Communication **Standard for Agricultural Employers**.

NOTES: The Division 4, Hazard Communication Standard for Agricultural Employers (OAR 437-004-9800), focuses on those parts of the General Industry Hazard Communication Standard (Division 2/Z, 1910.1200) that describe the employer's responsibility to establish a workplace program and to communicate information to workers about the hazards of the chemicals used in their workplace.

The Division 4 standard does not include the parts of the Division 2, Hazard Communication Standard that apply only to producers, distributors, and importers of chemicals because these are not typical activities for agricultural employers. As stated in 437-004-9800(2)Scope and application, any agricultural employer who produces, imports, or distributes chemical products must follow the more detailed rules that apply to those general industry activities in Division 2/Z, 1910.1200.

The requirements of this Division 4, Hazard Communication Standard, are intended to be consistent with the Hazard Communication Standard for general industry as aligned with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS.)

(1) Purpose.

~~[(a) This is to ensure that employers and employees know the hazards of chemicals where they work through a comprehensive hazard communication program, including container labeling and other warnings, material safety data sheets and training.]~~

~~[(b) This covers evaluation of the potential hazards of chemicals, and the communication of information about hazards and protective measures to workers. It preempts any legal requirements of a state, or political subdivision of a state, about this subject. This standard requires as a minimum: developing and maintaining a written hazard communication program; keeping a list of hazardous chemicals; labeling of containers of chemicals; preparation and distribution of material safety data sheets to workers; and development and use of worker training programs about hazards of chemicals and protective measures. Under section 18 of the Act, no state or political subdivision of a state may adopt or enforce, through any court or agency, any requirement relating to the issue addressed by this Federal standard, except pursuant to a Federally approved state plan.]~~

~~[NOTE: This subdivision was scaled down to exclude parts covering manufacturers of chemicals. On occasion, agricultural employers engage in activities that fit the definition of “produce” in this standard. If you do, you must get OAR 437-002-1910.1200, Hazard Communication, and follow the standards for manufacturers and producers of chemicals.]~~

~~[In the definition of “produce” you find the term “blend.” If you mix or blend chemicals and the resultant mixture has no new hazardous characteristics, you can use the MSDS sheets for the ingredients and you are not a producer or manufacturer. However, if the “blend” creates a new set of hazards, you have become a manufacturer and need to follow the above paragraph.]~~

The purpose of this Division 4 Hazard Communication Standard (HCS) is to ensure that agricultural employers provide appropriate information to their employees about the hazardous chemicals to which they can be exposed at their workplaces. The responsibility of chemical manufacturers, importers, and distributors to provide this information is described in Division 2/Z, 1910.1200. The HCS for agricultural employers describes how this information is to be provided: through a comprehensive hazard communication program, including container labels and other forms of warning, safety data sheets and employee training.

(2) Scope and application.

~~[(a) Employers must inform their workers about hazardous chemicals by using a hazard communication program, labels, material safety data sheets, information and training.~~

~~(b) This applies to any chemical known to be in the workplace in a way that may expose workers under normal conditions of use or in a foreseeable emergency.~~

~~(c) Agricultural employers with laboratories, doing other than do quality control or quality assurance work, must comply with OAR 437-002-1910.1200 and 1910.1450.~~

~~(d) Where workers only handle chemicals in unopened sealed containers, this section applies only as follows:~~

~~(A) Do not allow removal or defacing of labels on incoming containers of hazardous chemicals;~~

~~(B) Keep copies of material safety data sheets received with incoming shipments of the sealed containers of hazardous chemicals. Get a material safety data sheet as soon as possible for sealed containers of hazardous chemicals received without one if an employee requests the~~

~~material safety data sheet. Material safety data sheets must be readily accessible at all times to all employees; and,~~

~~(C) Give employees information and training that complies with OAR 437-004-9800(7) (except for the location and availability of the written hazard communication program under OAR 437-004-9800(7)(d)(C)), to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container.~~

~~(e) This section does not require labeling of the following chemicals:~~

~~(A) Any pesticide defined in the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.), when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Environmental Protection Agency;~~

~~(B) Any chemical substance or mixture defined in the Toxic Substances Control Act (15 U.S.C. 2601 et seq.), when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Environmental Protection Agency;~~

~~(C) Any food, food additive, color additive, drug, cosmetic, or medical or veterinary device or product, including materials intended for use as ingredients in such products (e.g., flavors and fragrances), defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.) or the Virus Serum Toxin Act of 1913 (21 U.S.C. 151 et seq.), and regulations issued under those Acts, when they are subject to the labeling requirements under those Acts by either the Food and Drug Administration or the Department of Agriculture;~~

~~(D) Any distilled spirits (beverage alcohols), wine, or malt beverage intended for nonindustrial use, defined in the Federal Alcohol Administration Act (27 U.S.C. 201 et seq.) and regulations issued under that Act, when subject to the labeling requirements of that Act and labeling regulations issued under that Act by the Bureau of Alcohol, Tobacco, and Firearms;~~

~~(E) Any consumer product or hazardous substance defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, when subject to a consumer product safety standard or labeling requirement of those Acts, or regulations issued under those Acts by the Consumer Product Safety Commission; and,~~

~~(F) Agricultural or vegetable seed treated with pesticides and labeled according to the Federal Seed Act (7 U.S.C. 1551 et seq.) and the labeling regulations issued under that Act by the Department of Agriculture.~~

~~(f) This section does not apply to:~~

~~(A) Any hazardous waste defined by the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6901 et seq.), when subject to regulations issued under that Act by the Environmental Protection Agency;~~

~~(B) Any hazardous substance defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. 9601 et seq.), when the hazardous substance is the focus of remedial or removal action being conducted under CERCLA according to Environmental Protection Agency regulations;~~

~~(C) Tobacco or tobacco products;~~

~~(D) Wood or wood products, including lumber that will not be processed, where the chemical manufacturer or importer can establish that the only hazard they pose to employees is the potential for flammability or combustibility (not exempt are wood or wood products treated with a hazardous chemical covered by this standard, and wood that may later be sawed or cut, generating dust);~~

~~(E) Articles (defined in OAR 437-004-9800(3));~~

~~(F) Food or alcoholic beverages sold, used, or prepared in a retail establishment (such as a grocery store, restaurant, or drinking place), and foods intended for personal consumption by employees while at work;~~

~~(G) Any drug, defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.), when it is in solid, final form for direct administration to the patient (e.g., tablets or pills); drugs packaged by the chemical manufacturer for sale to consumers in a retail establishment (e.g., over-the-counter drugs); and drugs intended for personal consumption by employees while at work (e.g., first aid supplies);~~

~~(H) Any consumer product or hazardous substance, defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, where the employer can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure not more than the range of exposures that could reasonably be experienced by consumers;~~

~~(I) Nuisance particulates where the chemical manufacturer or importer can establish that they do not pose any physical or health hazard covered under this section;~~

~~(J) Ionizing and non-ionizing radiation; and,~~

~~(K) Biological hazards.]~~

(a) This standard applies to agricultural employers when a hazardous chemical is known to be present in the workplace in a way that employees may be exposed under normal conditions of use or in a foreseeable emergency.

(b) This standard also applies to agricultural employers engaged in crop- or product-related quality control- or quality assurance-type laboratory work.

NOTE: See Division 4/Z, 437-004-9860, Hazardous Chemicals in Laboratories, for rules that apply to other types of laboratory activities.

(c) Division 2/Z, 1910.1200, the Hazard Communication Standard for General Industry, including all mandatory appendices, applies to any agricultural employer who is a producer, importer, or distributor of hazardous chemicals, as those activities are defined in this standard.

(d) The following types of hazardous substances are exempted from the requirements of this standard, under the stated conditions or circumstances:

(A) Any hazardous waste defined by the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6901 et seq.), when subject to regulations issued under that Act by the Environmental Protection Agency;

(B) Any hazardous substance as such term is defined by the Comprehensive Environmental Response, Compensation and Liability ACT (CERCLA) (42 U.S.C. 9601 et seq.), when the hazardous substance is the focus of remedial or removal action being conducted under CERCLA (such as a "Superfund" site) in accordance with Environmental Protection Agency regulations;

(C) Tobacco or tobacco products;

(D) Wood or wood products, including lumber if it will not be processed, where the manufacturer or importer has established that the only hazard posed to employees is the potential for combustibility;

NOTE: Wood and wood products that are treated with a hazardous chemical covered by this standard (such as chemically pressure-treated wood); and wood that will later be sawed, cut or sanded, generating dust, is covered by this standard.

(E) Articles as defined in OAR 437-004-9800(11);

(F) Food or alcoholic beverages sold, used, or prepared in a retail establishment (such as a grocery store, restaurant, or drinking place), and foods intended for personal consumption by employees while at work;

(G) Any drug, defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.), when it is in solid, final form for direct administration to the patient (e.g., tablets or pills); drugs packaged by the chemical manufacturer for sale to consumers in a retail establishment (e.g., over-the-counter drugs); and drugs intended for personal consumption by employees while at work (e.g., first aid supplies);

(H) Cosmetics which are packaged for sale to consumers or intended for personal consumption by employees while in the workplace;

(I) Any consumer product or hazardous substance, defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively, where the employer can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure not more than the range of exposures that could reasonably be experienced by consumers;

(J) Nuisance particulates where the chemical manufacturer or importer has established that they do not pose any physical or health hazard covered under this standard;

NOTE: Nuisance particulate is synonymous with “particulate not otherwise regulated” (PNOR.) PNOR includes all inert or nuisance dusts, whether mineral, inorganic, or organic, that are not specifically listed in Division 4/Z, OAR 437-004-9000, Oregon Rules for Air Contaminants.

(K) Ionizing and non-ionizing radiation; and,

(L) Biological hazards.

NOTES: In addition to these exempted hazardous substances, the general industry Hazard Communication Standard at 1910.1200(b)(5), lists additional types of hazardous chemicals whose manufacturers are not covered by the Hazard Communication labeling requirements, because the products are already regulated by other labeling regulations. (For example, labeling of consumer products is regulated by the Consumer Product Safety Commission; and labeling of pesticide products is regulated by the Environmental Protection Agency.)

Nonetheless, employers must ensure that hazardous chemicals are properly identified in their workplaces, as described in 437-004-9800(5).

(3) ~~[Definitions.]~~ **Reserved. (Definitions have been moved to paragraph (11).)**

(4) Written hazard communication program.

(a) Employers must **develop, implement, and maintain** an effective written hazard communication program that ~~is~~ ~~[describes how they will meet, at least, the criteria in OAR 437-004-9800(4), (5), and (6) for labels and other forms of warning, material safety data sheets, and employee information and training. This program must be]~~ specific to **their** ~~[each of the employer’s] workplace[s]. It [also] must [have]~~ **include the following:**

(A) A list of **all** the hazardous chemicals in the workplace using ~~[an identity referenced on the appropriate material safety data sheet (the list may be for the whole workplace or for individual work areas); and,]~~ **a product identifier that allows cross-referencing to both the product label and a Safety Data Sheet. (Lists may be developed for individual work areas, but the program-required list must include all hazardous chemicals present in the workplace to which the written hazard communication program applies.)**

(B) ~~[The methods the employer will use to inform employees of the hazards of non-routine tasks and the hazards associated with chemicals in unlabeled pipes in their work areas.]~~ **A description of their procedures or methods for meeting the requirements of this Hazard Communication Standard for Agricultural Employers including paragraphs (5) Labels and other forms of warning, (6) Safety data sheets, and (7) Employee information and training.**

(C) A description of the methods for informing their employees about the hazards of nonroutine tasks and the hazards associated with chemicals contained in any unlabeled pipes in their work areas.

(b) ~~At m~~^Multi-employer workplaces, ~~[-E]~~employers who use or store hazardous chemicals in a way that may expose ~~[the employees of]~~other employer's~~(s)]~~ **workers** must also ensure that their hazard communication program~~s~~ includes **their methods for:**

(A) ~~[The methods the employer will use to m]~~^{Making}~~[e] [material]~~safety data sheets **available to the workers of other employers**~~[for each hazardous chemical available to other employers with employees on the site exposed to the hazards;~~

(B) ~~[The methods the employer will use to i]~~^{Informing} ~~[the]~~other employer(s) of any precautionary measures needed **for the other employer** to protect **their** employees during normal operating conditions and foreseeable emergencies;~~[-and,]~~

(C) ~~[The methods the employer will use to i]~~^{Informing} ~~[the]~~other employer(s) ~~[of]~~**about the labeling system and other forms of warning** in use. **This includes how the employer will notify other employer(s) about areas where pesticides will be or are being applied and areas under a Restricted Entry Interval.**

~~[(c) The employer may rely on an existing hazard communication program to comply with these requirements, if it complies with OAR 437-004-9800(4).]~~

~~[(d)c] Upon request, t~~^The employer must make **their** written hazard communication program available~~[-on request,]~~ to employees, the~~[ir]~~ **employee's** designated representatives, **and** the Administrator~~[-according to the requirements of OAR 437-002-1910.1020(e)].~~

~~[(e)]~~**NOTE:** Where employees work at more than one ~~[geographical location]~~**workplace**, the written hazard communication program may be kept at the primary workplace ~~[facility]~~**as long as the information is made available for routine reference during the employee's regular shift and is readily available in an emergency.**

(5) Labels and other forms of warning.

~~[(a) Chemical manufacturers, importers and distributors have responsibilities for labeling products that you use and for giving those labels to you. Consult OAR 437-002-1910.1200(f), Labels and Other Forms of Warnings, for details.~~

~~(b)~~

~~(A) For solid metal (such as a steel beam or a metal casting), solid wood, or plastic items that are not exempt as articles due to their downstream use, or shipments of whole grain, the label may come with the initial shipment, and need not come with subsequent shipments to the same employer unless the information on the label changes;~~

~~(B) The label may come with the initial shipment itself, or with the material safety data sheet that comes prior to or with the first shipment; and,~~

~~(C) This exception to requiring labels on every container of hazardous chemicals is only for the solid material itself. It does not apply to hazardous chemicals used in conjunction with, or known to be present with, the material and to which employees handling the items in transit may be exposed (for example pesticides in grains).~~

~~(c) If the hazardous chemical is regulated by OR-OSHA in a substance-specific health standard, the chemical manufacturer, importer, distributor or employer must ensure that the labels or other forms of warning comply with that standard.~~

~~(d) Except as in (5)(e) and (5)(f) below, the employer must ensure that each container of hazardous chemicals is labeled, tagged or marked with this information:~~

~~(A) Identity of the hazardous chemical(s); and,~~

~~(B) Appropriate hazard warnings, words, pictures, symbols, or combination of them, that provide at least general information about the hazards of the chemicals, and which, with other information immediately available to employees, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.~~

~~(e) The employer may use signs, placards, process sheets, batch tickets, operating procedures, or other written materials instead of labels on individual stationary process containers, if the alternative method identifies the containers to which it is applicable and conveys the information required by (5)(d) above to be on a label. The written materials must always be readily accessible to the employees in their work area.~~

~~(f) Labels are not necessary on portable containers of hazardous chemicals intended only for use during the work shift by the employee who fills them.~~

~~(g) Incoming containers of hazardous chemicals must have labels that are legible and contain the information originally provided by the manufacturer or distributor.~~

~~(h) The employer must ensure that labels or other forms of warning are legible, in English, and prominently displayed on the container, or always readily available in the work area. Employers with employees who speak other languages may add the information in their language, as long as it is also in English.~~

~~(i) The employer need not affix new labels if existing labels already give the required information.~~

~~(j) Chemical manufacturers, importers, distributors, or employers who become newly aware of any significant information about the hazards of a chemical must revise the labels for the chemical within 3 months of becoming aware of the new information. Labels on containers of hazardous chemicals shipped after that time must have the new information. If the chemical is not currently produced or imported, the chemical manufacturer, importer, distributor, or employer must add the information to the label before the chemical is shipped again.]~~

NOTE: Chemical producers, importers, and distributors have responsibilities for labeling products that are shipped and for providing those labels to end-users.

(a) Workplace labeling. The employer must ensure that the primary (shipped) labels are legible, in English, and prominently displayed on the container in the work area. Employers with employees who communicate in languages other than English may include information in the other languages, as long as it is also in English.

(b) Except as provided in (5)(d), (5)(e), and (5)(f), the employer must ensure that each container of hazardous chemicals is labeled, tagged or marked with either:

(A) The same elements required on the shipped label:

(i) Product identifier,

(ii) Signal word,

(iii) Hazard statement(s),

(iv) Pictogram(s),

(v) Precautionary statement(s), and

(vi) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party; OR

(B) The product identifier (that allows cross-referencing with the product's safety data sheet), and

(i) Words, pictures, symbols, or a combination that provide at least general information about the hazards of the chemical;

(ii) This alternative in conjunction with the other information readily available to employees under the employer's hazard communication program, must provide employees with specific information about the hazards of the chemical and appropriate protective measures.

(c) If an employer becomes aware of new information from an up-dated, product label about the hazards of a chemical, or ways to protect against the hazards, affected employees must be trained on this new information before the chemical is used again in the workplace.

(d) The employer may use signs, placards, or other written materials instead of labels on individual, stationary process containers. This alternative method must identify the specific container, meet the requirements in (5)(a) and (b) and be readily accessible to the employees in their work area.

(e) Labels are not required on portable, secondary containers of hazardous chemicals that are for immediate use.

(f) Pesticide application equipment (such as spray tanks and backpack-type sprayers) do not require labeling if the pesticide handlers have access to the pesticide product label during handling activities.

(6) [Material-s]Safety data sheets[-(MSDS)].

~~[(a) Employers must have a material safety data sheet (MSDS) for each hazardous chemical they use. These sheets may be kept electronically.~~

~~(b) Material safety data sheets must be in English (although the employer may maintain copies in other languages as well), and have at least the following information:~~

~~(A) The identity used on the label, and, except as in OAR 437-004-9800(8) on trade secrets:~~

~~(i) If the hazardous chemical is a single substance, its chemical and common name(s);~~

~~(ii) If the hazardous chemical is a mixture that has been tested as a whole to determine its hazards, the chemical and common name(s) of the ingredients that contribute to these known hazards, and the common name(s) of the mixture itself; or,~~

(iii) If the hazardous chemical is a mixture that has not been tested as a whole:

- (I) The chemical and common name(s) of all ingredients known to be health hazards, and that are 1 percent or more of the composition, except that chemicals identified as carcinogens under paragraph (d) must be listed if the concentrations are 0.1 percent or more; and,
- (II) The chemical and common name(s) of all ingredients known to be health hazards, and that are less than 1 percent (0.1 percent for carcinogens) of the mixture, if there is evidence that the ingredient(s) could be released from the mixture in concentrations more than an established OR-OSHA permissible exposure limit or ACGIH Threshold Limit Value, or could present a health risk to employees; and,
- (III) The chemical and common name(s) of all ingredients known to present a physical hazard when present in the mixture;

(B) Physical and chemical characteristics of the hazardous chemical (such as vapor pressure, flash point);

(C) The physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity;

(D) The health hazards of the hazardous chemical, including signs and symptoms of exposure, and any medical conditions generally recognized as being aggravated by exposure to the chemical;

(E) The primary route(s) of entry;

(F) The OR-OSHA permissible exposure limit, ACGIH Threshold Limit Value, and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the material safety data sheet, where available;

(G) Whether the hazardous chemical is in the National Toxicology Program (NTP) Annual Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions), or by OR-OSHA;

(H) Any generally applicable precautions for safe handling and use known to the chemical manufacturer, importer or employer preparing the material safety data sheet, including appropriate hygienic practices, protective measures during repair and maintenance of contaminated equipment, and procedures for clean-up of spills and leaks;

(I) Any generally applicable control measures known to the chemical manufacturer, importer or employer preparing the material safety data sheet, such as appropriate engineering controls, work practices, or personal protective equipment;

(J) Emergency and first-aid procedures;

(K) The date of preparation of the material safety data sheet or the last change to it; and,

(L) The name, address and telephone number of the chemical manufacturer, importer, employer or other responsible party preparing or distributing the material safety data sheet, who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

(c) If no relevant information is found for any given category on the material safety data sheet, it must state that no applicable information was found.

(d) Where complex mixtures have similar hazards and contents (i.e., the chemical ingredients are essentially the same, but the specific composition varies from mixture to mixture), the chemical manufacturer, importer or employer may prepare one material safety data sheet to apply to all of these similar mixtures.

(e) The chemical manufacturer, importer or employer preparing the material safety data sheet must ensure that the information recorded accurately reflects the scientific evidence used in making the hazard determination. If the chemical manufacturer, importer or employer preparing the material safety data sheet becomes newly aware of any significant information regarding the hazards of a chemical, or ways to protect against the hazards, this new information must be added to the material safety data sheet within 3 months. If the chemical is not currently being

produced or imported the chemical manufacturer or importer must add the information to the material safety data sheet before the chemical is distributed again.

(f)

NOTE: Chemical manufacturers, importers and distributors have obligations to provide material safety data sheets. Employers also have obligations to get them when the source fails to automatically provide them. There are also requirements for retail distributors. Should you have trouble getting an MSDS, check OAR 437-002-1910.1200 for details on these requirements.

(g) The employer must keep copies of the required material safety data sheets (MSDS) for each hazardous chemical during its use or presence in the workplace, even residual chemicals encountered by workers doing field hand-labor. They must always be readily accessible to all employees.

Note: Electronic access and other alternatives to paper copies of the material safety data sheets are acceptable if employees have immediate access to them.

(h) Where employees work at more than one geographical location, the material safety data sheets may be kept at the primary workplace facility. The employer must ensure that employees can immediately get the required information in an emergency.

(i) Material safety data sheets may be in any form, including operating procedures, and may cover groups of hazardous chemicals when it is better to address the hazards of a process rather than individual hazardous chemicals. However, the employer must ensure that the required information is always provided for each hazardous chemical, and is always readily accessible to employees.

(j) Material safety data sheets must also be readily available, upon request, to designated representatives and to the Administrator, in compliance with OAR 437-002-1910.1020.]

(a) Employers must have a safety data sheet (SDS) for each hazardous chemical that is used or present in the workplace in a way that may expose employees under normal conditions of use or in a foreseeable emergency. This includes residual pesticides encountered by workers doing field hand-labor operations.

(b) SDSs must be readily accessible to all employees on all shifts. Where employees work at more than one workplace, the SDSs may be kept at the primary workplace.

(c) SDSs may be kept electronically if they are readily accessible to employees during their work shifts and available at all times, especially during an emergency such as a power failure.

(d) SDSs must be in English. Employers with employees who communicate in other languages may maintain copies of SDSs in other languages as well.

(e) Where complex mixtures of chemical products have similar hazards and contents (for example, the chemical ingredients are the same, but the specific composition varies from mixture to mixture), the employer may use one SDS to apply to all of these essentially similar mixtures. The product identifier of each mixture, as identified on the product label, must be cross-referenced to the SDS used.

(f) If an employer becomes aware of new information from an up-dated SDS about the hazards of a chemical or about ways to protect employees from the hazards, affected employees must be trained on this new information before the chemical is used again in the workplace.

(g) Safety data sheets as employee exposure records. In accordance with Division 4/A, OAR 437-004-0005, Access to Employee Medical and Exposure Records, employers must retain either the SDS or some record of the identity of the substance or agent, where it was used, and when it was used; and, make this record available upon request to employees, employee's designated representatives, and to the Administrator.

NOTE: OAR 437-004-0005 refers employers to Division 2/Z 1910.1020. For more information about this requirement, see 1910.1020(d)(1)(ii)(B).

(7) Employee information and training.

(a) Give employees effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and when a new physical or health hazard is introduced into their work area. Information and training may cover categories of hazards (~~[e.g.,]~~**examples include** flammable~~[ibility, carcinogenicity]~~ **liquids and pesticides**) or specific chemicals.

(A) Chemical-specific information must always be available through labels and ~~[material-]~~safety data sheets. Agricultural employees who mix, load, **or apply pesticides;**~~;~~ or otherwise handle hazardous chemicals must ~~[get all]~~**receive the full** information and training required by this standard.

(B) If employees only handle chemicals in sealed, unopened containers, give them training to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container.

(b) Inform employees of:

(A) The requirements of this ~~[section]~~**training paragraph;**

(B) Any operations in their work area where hazardous chemicals are present; and,

(C) The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and ~~[material-]~~safety data sheets.

(c) Employee training must include at least:

(A) Methods and observations to detect the presence or release of a hazardous chemical in the work area (such as monitoring done by the employer, ~~[continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.]~~**alarm systems, or characteristic odors;**)~~;~~

(B) The physical and health hazards of the chemicals in the work area;

(C) The measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment; and,

(D) The details of the hazard communication program **as it relates to the employee's work activities**, including an explanation of ~~the~~ **any alternative labeling or warning systems, possible exposures from non-routine tasks,**~~[and the material safety data sheet,]~~ and how employees can get and use the right hazard information.

(d) Agricultural employers must give all of their employees **a copy of, or provide them with training that covers the information in** the Oregon ~~[R-]~~OSHA ~~[brochure,]~~**publication #1951** "Safe Practices When Working Around Hazardous Agricultural Chemicals."

(e) For employees doing only **field** hand-labor **operations** where their~~[e-is]~~ **only** potential exposure **is** to **residual** pesticides, **employers may meet the training and information requirements of this rule by:**

(A) G[~~e~~]iving **each employee a copy of or providing training that covers the information in the Oregon OSHA publication #1951, "Safe Practices When Working Around Hazardous Agricultural Chemicals";** and~~[them the brochure,]~~

(B) Providing information about the location and availability of~~[Material Safety Data Sheets (MSDS)],~~ and ~~[as]~~ensuring **that employees have** access to **safety data sheets** ~~[Material Safety Data Sheet information meets the training and information requirements of this standard].~~

(8) Trade secrets. There are special standards about the relationship of this standard to trade secrets. If those circumstances apply, follow ~~[OAR 437-002-]~~**Division 2/Z, 1900.1200(i)** and its Appendix ~~[D]~~**E**.

NOTE: Division 2/Z 1910.1200(i) provides guidance for emergency medical personnel who need to obtain more detailed safety and health information about products with Trade Secret-protected ingredients. Appendix E to Division 2/Z, 1910.1200, Definition of Trade Secret, sets out the criteria to be used in evaluating trade secret claims.

(9) Subpoenas, citations, penalties.

(a) The Oregon Occupational Safety and Health Division has the authority under ORS Chapter 654 to issue a subpoena or any protective orders.

(b) Agency actions under ORS Chapter 654 and ~~[these rules]~~**this Hazard Communication Standard for Agricultural Employers** are enforceable by the issuance of additional citations and penalties pursuant to ORS 654.071(4), ORS 654.086(1)(d), or ORS 654.086(3). The Oregon Occupational Safety and Health Division may refer the matter to the Circuit Court in the county in which the proceedings are pending for enforcement of the subpoena.

(10) Phase-in dates for new rule requirements.

(a) By February 1, 2015, agricultural employers must train their employees about the new label elements (product identifier, signal word, hazard statements, pictograms, and precautionary statements) and, about the new, standardized, 16-section, safety data sheet (SDS) format. After this phase-in date has passed, this information must be included in the initial employee training in accordance with paragraph (7).

NOTES:

Chemical producers have until June 1, 2015 to be in compliance with all the modified provisions of the Division 2/Z Hazard Communication Standard (1910.1200) including those concerning classification, labeling, and safety data sheets.

(b) By June 1, 2016, employers must, as necessary, based on any new hazards identified by chemical manufacturers on updated labels and SDSs:

(A) Update their workplace hazard communication program, as required by paragraph (4); and

(B) Update any alternative workplace labeling used under paragraph (5); and

(C) Provide additional employee training in accordance with paragraph (7).

(11) Definitions.

Agricultural employer – **S[see definition in Division 4/B, OAR 437-004-0100. Also, see “Employer” below.**

Article[~~means a~~] – **A** manufactured item other than a fluid or particle:

(i) Formed to a specific shape or design during manufacture; **and**

(ii) With end use function(s) dependent in whole or in part on its shape or design during end use; and

(iii) [~~Which~~]**That** under normal conditions of use does not release more than [~~very small quantities, e.g.,~~] minute or trace amounts of a hazardous chemical and does not pose a physical hazard or health risk to employees.

Administrator[~~is t~~] – **T**he Administrator of the Oregon Occupational Safety and Health Division, or their designee.

Biological hazard (or biohazard) – An infectious or other biological agent (bacteria, virus, fungus, etc.) presenting a risk of death, injury or illness to employees. (Biohazards are excluded from the requirements of the HCS.)

Chemical[~~is a~~] – **A**ny element, chemical compound or mixture of elements [~~and~~]or compounds. **Chemicals may be in solid, liquid, or gaseous form.**

~~[Chemical manufacturer is an employer with a workplace where chemical(s) are made for use or distribution.]~~

Chemical name[is t] – The scientific designation of a chemical according to the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that clearly identifies the chemical for the purpose of conducting a hazard [evaluation]**classification.**

Classification – The process of identifying the relevant data about the hazards of a chemical; reviewing that data to determine the hazards or effects associated with the chemical; and deciding whether the chemical meets the criteria and definitions in this standard. Classification for health and physical hazards includes the determination of the degree of hazard, where appropriate, by comparing the data with the criteria for the health and physical hazard categories.

~~[Combustible liquid— see 4/B, OAR 437-004-0100, Universal Definitions.]~~

~~[Commercial account is an arrangement whereby a retail distributor sells hazardous chemicals to an employer, generally in large quantities over time and/or at costs that are below the regular retail price.]~~

~~[Common name means any designation or identification such as code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.]~~

[Compressed gas:

~~(i) A gas or mixture of gases with, in a container, an absolute pressure more than 40 psi at 70 degrees F (21.1 degrees C); or~~

~~(ii) A gas or mixture of gases with, in a container, an absolute pressure more than 104 psi at 130 degrees F (54.4 degrees C) regardless of the pressure at 70 degrees F (21.1 degrees C); or~~

~~(iii) A liquid with a vapor pressure exceeding 40 psi at 100 degrees F (37.8 degrees C) as determined by ASTM D-323-72.]~~

Container[~~is a~~] – Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. Pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

Crop- or product-related quality control- or quality assurance-type laboratory work – The sampling or testing of crops or agricultural products to discover defects, with the goal of improving or stabilizing production standards. This type of laboratory work at agricultural workplaces is covered by the requirements of the HCS.

NOTE: See Division 4/Z, 437-004-9860, Hazardous Chemicals in Laboratories, for rules that apply to other types of laboratory work.

Designated representative~~[is a]~~ – **Any** individual or organization to whom an employee gives written authorization to exercise such employee’s rights. A recognized or certified collective bargaining agent is automatically a designated representative without regard to written employee authorization.

Distributor~~[means a]~~ – **Any** business, other than a chemical manufacturer or importer, that supplies hazardous chemicals to other distributors or to employers.

Employee~~[is a]~~ – **For the purpose of this rule, any** worker who may be exposed to hazardous chemicals under normal ~~[operating]~~ conditions **of use** or in **a** foreseeable **emergency**~~[ies]~~. ~~[Workers such as office workers or bank tellers who encounter hazardous chemicals only in nonroutine, isolated instances are not covered.]~~ **(Also, see definition of “Worker” in Division 4/B, OAR 437-004-0100.)**

Employer~~[is a]~~ – **For the purposes of this rule, any** person, **corporation, association, or other legal entity, including a contractor or subcontractor**, engaged in a business where **employees may be exposed to** chemicals~~[are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor]~~. **(Also, see definition of “Agricultural employer” in Division 4/B, OAR 437-004-0100.)**

~~[Explosive is a chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.]~~

Exposure or exposed~~[means]~~ – **An occurrence when** an employee is subjected, in the course of employment, to a chemical that is a physical~~[or]~~ health, **or other listed** hazard,~~[and]~~ including~~[es potential (e.g.,) accidental or [possible]]~~ **reasonably anticipated** exposure. “Subjected” in terms of health hazards includes any route of entry **into the body, including** ~~[e.g.,]~~inhalation, ingestion, **percutaneous, and** skin contact or absorption~~[]~~.

~~[Flammable is a chemical that falls into one of the following categories:~~

~~(i) Aerosol, flammable is an aerosol that, when tested by the method described in 16 CFR 1500.45, yields a flame projection more than 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening;~~

~~(ii) Gas, flammable means:~~

~~(A) A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of 13 percent by volume or less; or~~

~~(B) A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than 12 percent by volume, regardless of the lower limit;~~

~~(iii) Liquid, flammable — see 4/B, OAR 437-004-0100, Universal Definitions.~~

~~(iv) Solid, flammable is a solid, other than a blasting agent or explosive as defined in 1910.109(a), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or that can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical is a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.]~~

~~[Flashpoint is the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite when tested as follows:~~

~~(i) Tagliabue Closed Tester (See American National Standard Method of Test for Flash Point by Tag Closed Tester, Z11.24-1979 (ASTM D 56-79)) for liquids with a viscosity of less than 45 Saybolt Universal Seconds (SUS) at 100 degrees F (37.8 degrees C), that do not contain suspended solids and do not have a tendency to form a surface film under test; or~~

~~(ii) Pensky-Martens Closed Tester (See American National Standard Method of Test for Flash Point by Pensky-Martens Closed Tester, Z11.7-1979 (ASTM D 93-79)) for liquids with a viscosity equal to or more than 45 SUS at 100 degrees F (37.8 degrees C), or that contain suspended solids, or that have a tendency to form a surface film under test; or~~

~~(iii) Setaflash Closed Tester (see American National Standard Method of Test for Flash Point by Setaflash Closed Tester (ASTM D 3278-78)).~~

~~Organic peroxides, that undergo auto-accelerating thermal decomposition, are excluded from any of the flashpoint determination methods above.]~~

Field hand-labor operations – Agricultural work done by hand or with hand tools, including the cultivation, weeding, planting, and harvesting of crops (including mushrooms) and the packing of produce into containers, whether done on the ground, on a moving machine, or in a temporary packing shed in the field.

Flammable liquids – See definition in Division 4/B, OAR 437-004-0100.

~~Foreseeable emergency[means a] – Any potential event [such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment]that could result in an uncontrolled release of a hazardous chemical into the workplace. **Examples include equipment failure, rupture of containers, or failure of control equipment.**~~

GHS – Globally Harmonized System – The United Nations’ system of classification and labeling of chemicals; an international approach to hazard communication that provides specific criteria for classification of chemical hazards and a standardized approach to label elements and safety data sheets. In 2012, OSHA revised the Hazard Communication Standard (29 CFR 1910.1200) to be consistent with the GHS.

~~Hand-labor operations – See, **Field hand-labor operations.** [is field work done by hand or with hand tools. This includes the cultivation, weeding, planting, and harvesting of crops, including mushrooms, and the packing of produce into containers, whether done on the ground, on a moving machine, or in a temporary packing shed in the field.]~~

Handler (or Pesticide Handler) – includes any person, who is employed for any type of compensation by an agricultural establishment and who:

Mixes, loads, transfers, or applies pesticides;

Disposes of pesticides or pesticide containers;

Handles opened containers of pesticides;

Acts as a flagger for equipment or aircraft applying pesticides;

Cleans, adjusts, handles, or repairs the parts of mixing, loading, or application equipment that may contain pesticide residues;

Assists with the application of pesticides; or

Performs other activities included within the definition of Handler by the Environmental Protection Agency.

NOTE: For more information, see the pesticide Worker Protection Standard in Division 4/W, §170. The term “handler” does not include an employee who only handles sealed, unopened pesticide containers or empty pesticide containers.

Hazard category – The divisions within a hazard class that compare the degree or severity of the hazard. For example, the chemical hazard classifications “oral acute toxicity” and “flammable liquid” both include four hazard categories based on specific criteria. Categories within a hazard class should not be compared with the categories of different hazard classes.

Hazard class – Describes the nature and effect of a physical or health hazard, such as “flammable solid”, “carcinogen”, and “oral acute toxicity”. (Also, see “Classification”).

Hazard not otherwise classified (HNOC) – An adverse physical or health effect identified through evaluation of scientific evidence during the manufacturer’s classification process that does not meet the specified criteria for the physical and health hazard classes addressed in Division 2/Z, 1910.1200. This does not extend coverage to adverse physical and health effects for which there is a hazard class addressed in 1910.1200, but the effect either falls below the cut-off value/concentration limit of the hazard class or is under a GHS hazard category that has not been adopted by OSHA. (One example is Category 5 oral acute toxicity.)

Hazard statement – A statement assigned to a hazard class and category that describes the nature of the hazards of a chemical, including, where appropriate, the degree of hazard.

Hazardous chemical[is-a] – Any chemical that is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

NOTE: Division 2/Z, 1910.1200, Appendices A and B describe the criteria producers must use for determining whether or not a chemical is a health or physical hazard for purposes of this standard.

Hazard warning[~~means any~~] – **The** words, pictures, symbols, or combination [appearing] on a label (or other appropriate form of warning) that [convey] **communicate** the specific physical and health hazards[~~s~~](s), including target organ effects, of the chemical(s) in the container[~~s~~]. (See the definitions for “physical hazard” and “health hazard” to determine the hazards which must be covered **by the manufacturer**.)

HCS – The Hazard Communication Standard.

Health hazard ~~– [is a chemical for which there is statistically significant evidence based on at least one study conducted according to established scientific principles that acute or chronic health effects may occur in exposed employees. The term “health hazard” includes chemicals that are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents that damage the lungs, skin, eyes, or mucous membranes. Appendix A gives more definitions and explanations of the scope of health hazards covered by this section. Appendix B describes the criteria for determining whether or not a chemical is hazardous for purposes of this standard.]~~ **A chemical that is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.**

NOTE: The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A to §1910.1200 – Health Hazard Criteria.

Identity[~~is any chemical or common name that is on the material safety data sheet (MSDS) for the chemical. The identity must allow cross-references to be made among the required list of hazardous chemicals, the label and the MSDS.~~] – **See Product Identifier.**

Immediate use[~~means that the~~] – **For the purpose of this rule, describes when a hazardous chemical will be used only within the work shift in which it is transferred, be** under the control of, and used only by the person who transfers it from a labeled container[~~and only within the work shift in which it is transferred~~]. **Under these specific conditions, a portable, secondary container is exempted from the requirement for a workplace label. (See 437-004-9800(5)(e).)**

Importer[~~is t~~] – **The** first business with employees within the Customs Territory of the United States that receives hazardous chemicals made in other countries for the purpose of supplying them to distributors or employers within the United States.

Label ~~– [is any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.]~~ **An appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.**

Label elements – The specified product identifier, pictogram(s), hazard statement(s), signal word, and precautionary statement(s) that correlate to each chemical product’s hazard class and category. Also, labels must identify and provide contact information for the product’s manufacturer or other responsible party.

Manufacturer – See Producer.

Material **S[s]afety D[~~d~~]ata S[s]heet (MSDS) – See, “Safety Data Sheet (SDS)”**. [~~is written or printed material about a hazardous chemical prepared according to OAR 437-004-9800(6).~~]

Mixture [~~means any-~~] – **A combination [of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction] or a solution composed of two or more substances in which they do not react.**

Nonroutine task – A work activity that occurs infrequently or that varies from what is considered a regular, standard, or normal task.

[Organic peroxide is an organic compound that has the bivalent –O–O– structure and may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.]

[Oxidizer is a chemical other than a blasting agent or explosive as defined in §1910.109(a), that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.]

Pesticide handler – See Handler.

Pesticide, residual – See Residual pesticide.

Physical hazard **– [is a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.] A chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas.**

NOTE: Physical Hazard Criteria is available in Appendix B to Division 2/Z, 1910.1200.

Pictogram – A composition that includes a red bordered square set on its point, enclosing a black symbol on a white background that is intended to convey specific information about the hazard of a chemical. Eight pictograms are designated under this standard for application to specific hazard categories.

Precautionary statement – A phrase that describes recommended measures that should be taken to prevent or minimize adverse effects resulting from exposure to, or improper storage or handling of a hazardous chemical.

[Produce means to manufacture, process, blend, extract, generate, emit, formulate, or repackage.]

Producer – For the purposes of this rule, an employer with a workplace where chemicals are manufactured, processed, extracted, generated, formulated, or repackaged for use or for distribution.

NOTE: If you mix or blend chemical products for use in your own workplace, and the resulting mixture has no new chemical ingredients or new hazardous characteristics, you can use the SDSs for the component ingredients and you are not considered to be a “producer.” (An example is mixing granular fertilizers together for application on your own property.) However, if the combined chemicals react to create a new ingredient or the combination creates a new hazard, you become a “producer” and you must follow the more detailed rule requirements in the Division 2/Z, 1910.1200, Hazard Communication Standard.

Product identifier – The unique name or number used on the label and in the SDS that provides a means by which the user can identify the hazardous chemical. (Examples include the chemical name, Chemical Abstracts Service (CAS) Registry Number, or other precise designation of the substance.) The product identifier must allow cross-referencing of the product’s label with the product’s SDS, and the list of hazardous chemicals in the employer’s written hazard communication program.

Pyrophoric gas – [is a]A chemical in a gaseous state that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.

Residual pesticide – Pesticide residue that remains on crops, soil, equipment or other work surfaces, after a pesticide application is completed and any label-required restricted entry interval (REI) has expired. For the purpose of providing hazard information, a Safety Data Sheet must be available for any pesticide that has been used at the workplace within the previous 30 days.

Responsible party – [is someone who can give additional information on the hazardous chemical and appropriate emergency procedures, if necessary.] As used on a Label or Safety Data Sheet, someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

Restricted entry interval (REI) – The time period that immediately follows a pesticide application (as specified on the product label) during which only trained and protected employees may enter into the treated area. (The treated area is the physical location where a pesticide is being or has been applied.)

Safety data sheet (SDS) – Written or printed information about a hazardous chemical that is prepared (generally by the manufacturer) in accordance with paragraph (g) of and Appendix D to Division 2/Z, 1910.1200.

Signal word – A word used to alert the reader of the product label to a potential hazard. The signal words used in this section are “DANGER” and “WARNING” “DANGER” is used for the more severe hazards, while “WARNING” is used for the less severe. These words are chosen by the manufacturer based on the classification and categorization of the chemical’s hazards.

NOTE: The EPA has jurisdiction over manufacturers of pesticides and currently has its own system of signal words used on pesticide labels.

Simple asphyxiant – A substance or mixture that displaces oxygen in the ambient atmosphere, and can thus cause oxygen deprivation in those who are exposed, leading to unconsciousness and death.

Specific chemical identity – **See “Product identifier”**. [~~is the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.~~]

Substance – Chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

Trade secret [~~is any~~] – **A** confidential formula, pattern, process, device, information or compilation of information **that is** used in an employer’s business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.

NOTE: Division 2/Z 1910.1200(i) provides guidance for emergency medical personnel who need to obtain more detailed safety and health information about products with Trade Secret-protected ingredients. Appendix E to Division 2/Z, 1910.1200 – Definition of Trade Secret, sets out the criteria to be used in evaluating trade secret claims.

[Unstable (reactive) is a chemical that in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.]

Use [~~means to package,~~] – **To** handle, [~~react, emit, extract,~~] **apply, transfer, or** generate as a by-product, **any hazardous chemical covered by the requirements of this rule** [~~or transfer~~].

[Water-reactive is a chemical that reacts with water to release a gas that is either flammable or presents a health hazard.]

Work area [~~is a~~] – **A** room or defined space in a workplace where hazardous chemicals are [~~made or~~] used, and where there are employees.

Workplace [~~is a~~] – **An** establishment, job site, or project, at one geographical location with one or more work areas.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

[Appendix A to 437-004-9800

Health Hazard Definitions (Mandatory)

Although safety hazards related to the physical characteristics of a chemical can be objectively defined in terms of testing requirements (e.g., flammability), health hazard definitions are less precise and more subjective. Health hazards may cause measurable changes in the body—like decreased pulmonary function. These changes generally are indicated by signs and symptoms in the exposed employees—such as shortness of breath, a non-measurable, subjective feeling. Employees exposed to such hazards must be informed of both the change in body function and the signs and symptoms that may occur to signal that change.

Complicating the identification of occupational health hazards is the fact that many of the effects or signs and symptoms occur commonly in non-occupationally exposed populations, so that effects of exposure are difficult to separate from normally occurring illnesses. Occasionally, a substance causes an effect that is rarely seen in the population at large, such as angiosarcomas caused by vinyl chloride exposure, thus making it easier to discover that the occupational exposure was the primary causative factor. More often, however, the effects are common, such as lung cancer. The situation is complicated more by the fact that most chemicals have not been adequately tested to determine their health hazard potential, and data do not exist to substantiate these effects.

There have been many attempts to categorize effects and to define them in various ways. Generally, the terms “acute” and “chronic” delineate between effects on the basis of severity or duration. “Acute” effects usually occur rapidly as a result of short-term exposures, and are of short duration. “Chronic” effects generally occur as a result of long-term exposure, and are of long duration.

The acute effects referred to most frequently are those defined by the American National Standards Institute (ANSI) standard for Precautionary Labeling of Hazardous Industrial Chemicals (Z129.1-1982)—irritation, corrosivity, sensitization and lethal dose. Although these are important health effects, they do not adequately cover the considerable range of acute effects that may occur from occupational exposure, such as, for example, narcosis.

Similarly, the term chronic effect is often used to cover only carcinogenicity, teratogenicity, and mutagenicity. These effects are obviously a concern in the workplace, but again, do not adequately cover the area of chronic effects, excluding, for example, blood dyscrasias (such as anemia), chronic bronchitis and liver atrophy.

The goal of defining precisely, in measurable terms, every possible health effect that may occur in the workplace as a result of chemical exposures cannot realistically be accomplished. This does not negate the need for employees to be informed of such effects and protected from them. Appendix B, which is also mandatory, outlines the principles and procedures of hazard assessment.

For purposes of this section, any chemicals that meet any of the following definitions, as determined by the criteria set forth in Appendix B are health hazards. However, this is not intended to be an exclusive categorization scheme. If there are available scientific data that involve other animal species or test methods, they must also be evaluated to determine the applicability of the HCS.

~~1. **Carcinogen:** A chemical is a carcinogen if:~~

~~(a) It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a carcinogen or potential carcinogen; or~~

~~(b) It is a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or,~~

~~(c) OSHA regulates it as a carcinogen.~~

~~2. **Corrosive:** A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. For example, a chemical is considered to be corrosive if, when tested on the intact skin of albino rabbits by the method described by the U.S. Department of Transportation in Appendix A to 49 CFR Part 173, it destroys or changes irreversibly the structure of the tissue at the site of contact following an exposure period of 4 hours. This term does not refer to action on inanimate surfaces.~~

~~3. **Highly toxic:** A chemical in any of the following categories:~~

~~(a) A chemical with a median lethal dose (LD₅₀) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.~~

~~(b) A chemical with a median lethal dose (LD₅₀) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.~~

~~(c) A chemical with a median lethal concentration (LC₅₀) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume, or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1-hour) to albino rats weighing between 200 and 300 grams each.~~

~~4. **Irritant:** A chemical, that is not corrosive, but causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A chemical is a skin irritant if, when tested on the intact skin of albino rabbits by the methods of 16 CFR 1500.41 for 4 hours exposure or by other appropriate techniques, it results in an empirical score of five or more. A chemical is an eye irritant if so determined under the procedure listed in 16 CFR 1500.42 or other appropriate techniques.~~

~~5. **Sensitizer:** A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.~~

~~6. **Toxic.** A chemical falling within any of the following categories:~~

~~(a) A chemical with a median lethal dose (LD₅₀) of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.~~

~~(b) A chemical with a median lethal dose (LD₅₀) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when~~

~~administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each.~~

~~(c) A chemical with a median lethal concentration (LC₅₀) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than 2 milligrams per liter but not more than 20 milligrams per liter of mist, fume, or dust, when administered by continuous inhalation for 1-hour (or less if death occurs within 1-hour) to albino rats weighing between 200 and 300 grams each.~~

~~**7. Target organ effects.** The following is a target organ categorization of effects that may occur, including examples of signs and symptoms and chemicals that cause such effects. These examples illustrate the range and diversity of effects and hazards found in the workplace, and the broad scope employers must consider in this area, but are not all-inclusive.~~

~~**a. Hepatotoxins:** Chemicals that produce liver damage~~

~~Signs & Symptoms: Jaundice; liver enlargement~~

~~Chemicals: Carbon tetrachloride; nitrosamines~~

~~**b. Nephrotoxins:** Chemicals that produce kidney damage~~

~~Signs & Symptoms: Edema; proteinuria~~

~~Chemicals: Halogenated hydrocarbons; uranium~~

~~**c. Neurotoxins:** Chemicals that produce their primary toxic effects on the nervous system~~

~~Signs & Symptoms: Narcosis; behavioral changes; decrease in motor functions~~

~~Chemicals: Mercury; carbon disulfide~~

~~**d. Agents which act on the blood or hematopoietic system:** Decrease hemoglobin function; deprive the body tissues of oxygen~~

~~Signs & Symptoms: Cyanosis; loss of consciousness~~

~~Chemicals: Carbon monoxide; cyanides~~

~~**e. Agents which damage the lung:** Chemicals that irritate or damage pulmonary tissue~~

~~Signs & Symptoms: Cough; tightness in chest; shortness of breath~~

~~Chemicals: Silica; asbestos~~

~~**f. Reproductive toxins:** Chemicals that affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis)~~

~~Signs & Symptoms: Birth defects; sterility~~

~~Chemicals: Lead; DBCP~~

~~**g. Cutaneous hazards:** Chemicals that affect the dermal layer of the body~~

~~Signs & Symptoms: Defatting of the skin; rashes; irritation~~

~~Chemicals: Ketones; chlorinated compounds~~

~~**h. Eye hazards:** Chemicals that affect the eye or visual capacity~~

~~Signs & Symptoms: Conjunctivitis; corneal damage~~

~~Chemicals: Organic solvents; acids~~

~~Stat. Auth.: ORS 654.025(2) and 656.726(4).~~

~~Stats. Implemented: ORS 654.001 through 654.295.~~

~~Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.]~~

[Appendix B to 437-004-9800

Hazard Determination (Mandatory)

The quality of a hazard communication program depends on the adequacy and accuracy of the hazard determination. The hazard determination requirement of this standard is performance-oriented. Chemical manufacturers, importers, and employers evaluating chemicals do not have to follow any specific methods for determining hazards, but they must be able to demonstrate that they have adequately ascertained the hazards of the chemicals produced or imported according to the criteria in this Appendix.

Hazard evaluation relies heavily on the professional judgment of the evaluator, particularly in the area of chronic hazards. The performance orientation of the hazard determination does not diminish the duty of the chemical manufacturer, importer or employer to conduct a thorough evaluation, examining all relevant data and producing a scientifically defensible evaluation. For purposes of this standard, use the following criteria in making hazard determinations that meet the requirements of this standard.

- 1. Carcinogenicity:** As described in paragraph **OAR 437-004-9800(d)(4)** and Appendix A, a determination by the National Toxicology Program, the International Agency for Research on Cancer, or OSHA that a chemical is a carcinogen or potential carcinogen is conclusive evidence for purposes of this section. Also, however, all available scientific data on carcinogenicity must be evaluated according to this Appendix and the requirements of the rule.
- 2. Human data:** Where available, consider epidemiological studies and case reports of adverse health effects in the evaluation.
- 3. Animal data:** Human evidence of health effects in exposed populations is generally not available for the majority of chemicals produced or used in the workplace. Therefore, the available results of toxicological testing in animal populations must be used to predict the possible health effects for exposed workers. In particular, the definitions of certain acute hazards refer to specific animal testing results (see Appendix A).
- 4. Adequacy and reporting of data.** The results of any studies designed and conducted according to established scientific principles, and that report statistically significant conclusions regarding the health effects of a chemical, are a sufficient basis for a hazard determination and reported on any material safety data sheet. *In vitro* studies alone generally do not form the basis for a definitive finding of hazard under the HCS since they have a positive or negative result rather than a statistically significant finding.

The chemical manufacturer, importer, or employer may also report the results of other scientifically valid studies which tend to refute the findings of hazard.

Stat. Auth.: ORS 654.025(2) and 656.726(4).
Stats. Implemented: ORS 654.001 through 654.295.
Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.}

[Appendix C to 437-004-9800

Guidelines for Employer Compliance (Advisory)

The basis of the Hazard Communication Standard (HCS) is the simple concept that employees have both a need and a right to know the hazards and identities of the chemicals they are exposed to at work. They also need to know what protective measures are available to prevent adverse effects. Compliance with the HCS gives employees the information they need.

The HCS covers the issues of evaluating and communicating hazards to workers. Evaluation of chemical hazards involves a number of technical concepts, and is a process that requires the professional judgment of experienced experts. That is why the HCS is designed so that employers who simply use chemicals, rather than produce or import them, do not have to evaluate the hazards of those chemicals. Hazard identification is the responsibility of the producers and importers of the materials. Producers and importers of chemicals then have to give the hazard information to employers that purchase their products.

Employers that do not produce or import chemicals need only focus on those parts of the rule that deal with establishing a workplace program and communicating information to their workers. We have left out some parts of the original federal standard because Oregon agricultural employers seldom manufacture their own chemicals or otherwise do things that would make it necessary to comply with the parts we have left out. This appendix is a general guide for employers to help them determine what is required under the rule. It does not substitute for the regulation, but is a simplified outline of the steps an average employer would follow to comply.

1. Becoming Familiar With The Rule.

OR-OSHA has a simple summary of the HCS in a pamphlet called "Developing Your Hazcom Program," OR-OSHA Publication Number 2034. Order a free copy from the OR-OSHA Resource Center at (503) 947-7447.

You may find that you are already mostly complying with parts of this standard and will simply have to modify your existing programs.

The standard's design is simple. Chemical manufacturers and importers must evaluate the hazards of the chemicals they produce or import. Using that information, they must then make labels for containers, and more detailed technical bulletins called material safety data sheets (MSDS).

Chemical manufacturers, importers, and distributors of hazardous chemicals must give the appropriate labels and material safety data sheets to the employers to which they ship the chemicals. The information must be given automatically. Every container of hazardous chemicals you get must have a label, tag or markings with the required information. Your suppliers must also send you a properly completed material safety data sheet (MSDS) at the time of the first shipment of the chemical, and with the next shipment after the MSDS is updated with new and significant information about the hazards.

You can rely on the information received from your suppliers. You have no independent duty to analyze the chemical or evaluate the hazards of it.

Employers that “use” hazardous chemicals must have a program to ensure the information is given to exposed employees. “Use” means to package, handle, react, or transfer. This is an intentionally broad scope, and includes any situation where a chemical is present in such a way that employees may be exposed under normal conditions of use or in a foreseeable emergency. For agriculture, this is in addition to all other standards’ requirements.

The requirements of the rule that deal specifically with the hazard communication program are in this section in paragraphs (4), written hazard communication program; (5), labels and other forms of warning; (6), material safety data sheets; and (7), employee information and training. The requirements of these paragraphs should be the focus of your attention. Concentrate on becoming familiar with them, using paragraphs (2), scope and application, and (3), definitions, as references to help explain things.

There are two types of work where the coverage of the rule is limited. These are laboratories and operations where chemicals are only handled in sealed containers (e.g., a warehouse). The limited provisions for these workplaces can be found in paragraph (2), scope and application. Basically, employers with these types of work operations need only keep labels on containers as they are received; maintain material safety data sheets and give employees access to them; and provide information and training for employees. Employers do not have to have written hazard communication programs and lists of chemicals for these types of operations.

2. Identify Responsible Staff.

Hazard communication is going to be a continuing program for you. Compliance with the HCS is not a “one shot deal.” To have a successful program, it is necessary to assign responsibility for both the initial and ongoing activities that have to be done to comply with the rule. Sometimes, these activities may already be part of current job assignments. Early identification of the responsible employees, and involvement of them in the development of your plan will result in a more effective program design.

For any safety and health program, success depends on commitment at every level of the organization. This is particularly true for hazard communication, where success requires a change in behavior. This will only happen if employers understand the program, are committed to its success and motivate the workers.

3. Identify Hazardous Chemicals in the Workplace.

The standard requires a list of hazardous chemicals in the workplace as part of the written hazard communication program. The list will eventually serve as an inventory of everything for which you need an MSDS. Preparing the list will help you complete the rest of the program since it will give you some idea of the scope of the program required for compliance in your facility.

The best way to prepare a comprehensive list is to survey the workplace. Purchasing records may also help, and certainly employers should establish procedures to ensure that, in the future, purchasing procedures result in MSDSs being received before a material is used in the workplace.

Take the broadest possible perspective when doing the survey. Sometimes people think of “chemicals” as being only liquids in containers. The HCS covers chemicals in all physical forms

—liquids, solids, gases, vapors, fumes, and mists whether they are “contained” or not. The hazardous nature of the chemical and the potential for exposure are the factors that determine whether a chemical is covered. If it is not hazardous, it is not covered. If there is no potential for exposure (e.g., the chemical is bound and cannot be released), the rule does not cover the chemical.

Look around. Identify chemicals in containers, including pipes, but also think about chemicals produced by the work. For example, welding fumes, dust, and exhaust fumes are all sources of chemical exposures. Read labels provided by suppliers for hazard information. Make a list of all chemicals in the workplace that are potentially hazardous. For your own information and planning, you may want to note on the list the location(s) of the products and an indication of the hazards as found on the label. This will help you as you prepare the rest of your program.

Paragraph (2), scope and application, includes exemptions for various chemicals or work situations. After compiling the complete list of chemicals, you should review paragraph (2) to determine if you can eliminate any of the items from the list because they are exempt materials. For example, food, drugs, and cosmetics brought to work for employee consumption are exempt. So rubbing alcohol in the first aid kit is exempt.

Once you have as complete a list as possible, the next step is to determine if you have material safety data sheets for all of them. Check your files against the inventory you have just done. If any are missing, contact your supplier and request one. It is a good idea to document these requests, either by copy of a letter or a note regarding telephone conversations. If you have MSDSs for chemicals that are not on your list, figure out why. Maybe you do not use the chemical anymore and thus do not need the MSDS. Or maybe you missed it in your survey. Some suppliers do provide MSDSs for products that are not hazardous. You do not have to keep these.

Do not allow employees to use any chemicals for which you do not have an MSDS. The MSDS gives information you need to ensure use of proper protective measures.

4. Preparing and Implementing a Hazard Communication Program.

All workplaces where employees are exposed to hazardous chemicals must have a written plan that describes how the standard will be followed. Preparation of a plan is not just a paper exercise, all of the elements must be there to be in compliance. See paragraph (4) for the specific requirements regarding written hazard communication programs.

The plan does not have to be lengthy or complicated. It is intended to be a blueprint for implementation of your program—to help you cover all parts of the standard.

Many associations and groups have sample programs and other assistance materials for employers. These can be very helpful to many employers because they tend to be tailored to the particular industry. You may wish to see if your association has such materials.

Although such general guidance may be helpful, remember that the written program has to reflect what you are doing in your workplace. Therefore, if you use a generic program, adapt it to your business.

If OR-OSHA inspects your place for compliance with the HCS, the OR-OSHA compliance officer will ask to see your written plan at the beginning of the inspection. In general, they will use the following to evaluate your program.

The written program must describe how the requirements for labels and other forms of warning, material safety data sheets, and employee information and training, are met in your facility. The following gives the type of information compliance officers will be looking for to decide whether these elements of the hazard communication program have been properly addressed:

A. Labels and Other Forms of Warning.

In-plant containers of hazardous chemicals must be labeled, tagged, or marked with the identity of the material and appropriate hazard warnings. Employers buying chemicals can rely on the labels provided by their suppliers. If the material is subsequently transferred by the employer from a labeled container to another container, the employer has to label that container unless it is subject to the portable container exemption. See paragraph (5) for specific labeling requirements.

The primary information you should get from an OSHA-required label is an identity for the material, and appropriate hazard warnings. The identity is any term that appears on the label, the MSDS, and the list of chemicals, and thus links these three sources of information. The identity used by the supplier may be common or trade name ("Black Magic Formula"), or a chemical name (1,1,1-trichloroethane). The hazard warning is a brief statement of the hazardous effects of the chemical ("flammable," "causes lung damage"). Labels frequently have other information, such as precautionary measures ("do not use near open flame"), but this information is voluntary. Labels must be legible, and prominently displayed. There are no specific requirements for size or color, or any specified text.

With these requirements in mind, the compliance officer will be looking for the following types of information to ensure that labeling is right in your facility:

1. Designation of person(s) responsible for ensuring labeling of in-plant containers;
2. Designation of person(s) responsible for ensuring labeling of any shipped containers;
3. Description of labeling system(s) used;
4. Description of written alternatives to labeling of in-plant containers (if used); and,
5. Procedures to review and update label information when necessary.

Employers that buy and use hazardous chemicals—rather than producing or distributing them—will primarily be concerned that every purchased container is labeled. If they transfer material into other containers, the employer must ensure that these are labeled as well, unless they fall under the portable container exemption (OAR 437-004-9800(5)(f)). In terms of labeling systems, you can simply choose to use the labels provided by your suppliers on the containers. These will generally be verbal text labels, and do not usually include numerical rating systems or symbols that require special training. The most important thing to remember is that this is a continuing duty—all in-plant containers of hazardous chemicals must always have labels. Therefore, it is important to designate someone to be responsible for ensuring that the labels are maintained as required on the containers in your facility, and that newly purchased materials are checked for labels before use.

B. Material Safety Data Sheets.

Chemical manufacturers and importers have to get or develop a material safety data sheet for each hazardous chemical they produce or import. Distributors must ensure that their customers get a copy of these MSDSs. Employers must have an MSDS for each hazardous chemical they use. Employers may rely on the information from their suppliers. The specific requirements for material safety data sheets are in OAR 437-004-9800(6).

The rule has no specific format for the MSDS, although there are specific things that must be on them. The MSDS must be in English. You are entitled to receive from your supplier a data sheet that includes all of the information required by the rule. If you do not get one automatically, you should request one. If you get one that is obviously inadequate, with, for example, blank spaces, you should request an appropriately completed one. If your request for a data sheet or for a corrected data sheet does not produce the information needed, you should contact your local OR OSHA office for assistance in getting the MSDS.

The role of MSDSs under the rule is to provide detailed information on each hazardous chemical, including its potential hazardous effects, its physical and chemical characteristics, and recommendations for appropriate protective measures. This information should be useful to you as the employer responsible for designing protective programs, as well as to the workers. If you are not familiar with material safety data sheets and with chemical terminology, you may need to learn to use them yourself. A glossary of MSDS terms may be helpful in this regard. Generally speaking, most employers using hazardous chemicals will primarily be concerned with MSDS information about hazardous effects and recommended protective measures. Focus on the sections of the MSDS that are applicable to your situation.

MSDSs must be readily accessible to employees when they are in their work areas during their work shifts. This may be accomplished in many different ways. You must decide what is appropriate for your particular workplace. Some employers keep the MSDSs in a binder in a central location. Others, particularly in workplaces with large numbers of chemicals, computerize the information and provide access through terminals. As long as employees can get the information when they need it, any approach is okay. The employees must have access to the MSDSs themselves—simply having a system where the information can be read to them over the phone is only permitted under the mobile work site provision, OAR 437-004-9800(6)(h), when employees must travel between workplaces during the shift. In this situation, they have access to the MSDSs prior to leaving the primary work site, and when they return, so the telephone or radio system is simply an emergency arrangement.

In order to ensure that you have a current MSDS for each chemical in the plant as required, and that employees have access, the compliance officers will look for the following types of information in your written program:

1. Designation of person(s) responsible for obtaining and maintaining the MSDSs;
2. How the sheets are maintained in the workplace (e.g., in notebooks in the work area(s) or in a computer with terminal access), and how employees can have access to them when they are in their work area during the shift;
3. Procedures to follow when the MSDS does not come in with the first shipment;
4. For producers, procedures to update the MSDS when new and significant health information is found; and,

5.—Description of alternatives to actual data sheets in the workplace, if used.

For employers using hazardous chemicals, the most important aspect of the written program in terms of MSDSs is to ensure that someone is responsible for obtaining and maintaining the MSDSs for every hazardous chemical in the workplace. The list of hazardous chemicals required as part of the written program will serve as an inventory. As new chemicals are purchased, update the list. Many employers find it convenient to include on their purchase orders the name and address of the person designated in their company to receive MSDSs.

C. Employee Information and Training.

Each employee who may be “exposed” to hazardous chemicals must be given information and trained prior to initial assignment to work with a hazardous chemical, and when the hazard changes. “Exposure” or “exposed” under the rule means that “an employee is subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.) and includes potential (e.g., accidental or possible) exposure.” See OAR 437-004-9800(7) for specific requirements. Information and training may be done either by individual chemical, or by categories of hazards (such as flammability or carcinogenicity). If there are only a few chemicals in the workplace, then you may want to discuss each one individually. Where there are large numbers of chemicals, or the chemicals change frequently, you will probably want to train generally based on the hazard categories (e.g., flammable liquids, corrosive materials, carcinogens). Employees will have access to the substance-specific information on the labels and MSDSs.

Information and training is a critical part of the hazard communication program. Information about hazards and protective measures is given to workers through written labels and material safety data sheets. However, through effective information and training, workers will learn to read and understand such information, determine how it can be obtained and used in their own workplaces, and understand the risks of exposure to the chemicals in their workplaces as well as the ways to protect themselves. A properly conducted training program will ensure comprehension and understanding. It is not sufficient to just read material to the workers. You want to create a climate where workers feel free to ask questions. This will help you ensure that the information is understood. You must remember that the underlying purpose of the HCS is to reduce the incidence of chemical source illnesses and injuries. This is done by modifying behavior by providing hazard information and information about protective measures. If your program works, you and your workers will better understand the chemical hazards within the workplace. The procedures you establish regarding, for example, purchasing, storage, and handling of these chemicals will improve, and thereby reduce the risks posed to employees exposed to the chemical hazards involved. Furthermore, your workers’ comprehension will increase and proper work practices will be followed in your workplace.

If you are going to do the training yourself, you will have to understand the material and be prepared to motivate the workers to learn.

In reviewing your written program with regard to information and training, consider the following items:

- 1.—Designation of person(s) responsible for conducting training;
- 2.—Format of the program to be used (audiovisuals, classroom instruction, etc.);

~~3. Elements of the training program (should be consistent with the elements in paragraph (h) of this section); and,~~

~~4. Procedure to train new employees at the time of their initial assignment to work with a hazardous chemical, and to train employees when a new hazard is introduced into the workplace.~~

~~The written program should give enough details about the employer's plans in this area to assess whether or not a good faith effort is being made to train employees. OR OSHA does not expect that every worker will be able to recite all of the information about each chemical in the workplace. In general, the most important aspects of training under the HCS are to ensure that employees are aware that they are exposed to hazardous chemicals, that they know how to read and use labels and material safety data sheets, and that, as a consequence of learning this information, they are following the appropriate protective measures established by the employer. OR OSHA compliance officers will talk to employees to determine if they have received effective training, if they know they are exposed to hazardous chemicals, and if they know where to obtain substance-specific information of labels and MSDSs.~~

~~The rule does not require employers to maintain records of employee training, but many employers choose to do so. This may help you monitor your own program to ensure that all employees are appropriately trained. If you already have a training program, you may simply have to supplement it with whatever additional information is required under the HCS.~~

~~An employer can provide employees information and training through whatever means are appropriate and protective. Although there would always have to be some training on-site (such as informing employees of the location and availability of the written program and MSDSs), employee training may be satisfied in part by general training about the requirements of the HCS provided by, associations, colleges and professional schools. Also, previous training, education and experience of a worker may relieve the employer of some of the burdens of informing and training that worker. Regardless of the method, the employer is always ultimately responsible for ensuring that employees are adequately trained. If the compliance officer finds that the training is deficient, the employer will be cited for the deficiency regardless of who actually did the training on behalf of the employer.~~

~~D. Other Requirements.~~

~~In addition to these specific items, compliance officers will ask the following questions in assessing the adequacy of the program:~~

~~Is there a list of the hazardous chemicals in each work area or at a central location?~~

~~Are methods the employer will use to inform employees of the hazards of non-routine tasks outlined?~~

~~Are employees told of the hazards associated with chemicals in unlabeled pipes in their work areas?~~

~~On multi-employer work sites, has the employer given other employers information about labeling systems and precautionary measures where the other employers have employees exposed to the initial employer's chemicals?~~

~~Is the written program available to employees and their designated representatives?~~

~~If your program adequately addresses the means of communicating information to employees in your workplace, and answers the basic questions outlined above, it complies with the rule.~~

5. Checklist for Compliance.

~~The following checklist will help to ensure you are in compliance with the rule:~~

- ~~▪ Obtained a copy of the rule.~~
- ~~▪ Read and understood the requirements.~~
- ~~▪ Assigned responsibility for tasks.~~
- ~~▪ Prepared an inventory of chemicals.~~
- ~~▪ Ensured containers are labeled.~~
- ~~▪ Obtained MSDS for each chemical.~~
- ~~▪ Prepared written program.~~
- ~~▪ Made MSDSs available to workers.~~
- ~~▪ Conducted training for workers.~~
- ~~▪ Established procedures to maintain current program.~~
- ~~▪ Established procedures to evaluate effectiveness.~~

6. Further Assistance.

~~If you have a question regarding compliance with the HCS, you should contact OR-OSHA Technical Services for assistance at 503-378-3272. Free consultation services are also available to assist employers, and information about these services is available at the above number also.~~

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist.: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.]

437-004-9850 Pipe Labeling.

(1) Scope and application. This rule applies to all pipes **and piping systems** that contain hazardous substances, **transport substances in a hazardous state**, or that use asbestos as insulation material. This rule does not apply to buried pipe.

(2) Definitions:

Asbestos: includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos and any of these minerals that have been chemically treated or altered.

Hazardous substances: any substance that is a physical or health hazard.

Health hazard: [~~a chemical for which there is statistically significant evidence that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosive sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents that act on the hematopoietic system, and agents that damage the lungs, skin, eyes or mucous membranes.~~] **A chemical that is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard. The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A to 1910.1200 – Health Hazard Criteria, in Division 2/Z.**

Physical hazard: [~~includes combustible liquids, compressed gases, explosives, flammables, an organic peroxides, oxidizers, pyrophorics, unstable (reactive) or water reactive substances.~~] **A chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas. The criteria for determining whether a chemical is classified as a physical hazard are detailed in Appendix B to 1910.1200 – Physical Hazard Criteria, in division 2/Z.**

Pip[es]ing system: includes **single or multiple** pipes[₇] **of any kind in addition to** valves and pipe coverings.

(3) Labeling.

(a) Label pipes that contain hazardous substances or transport substances in a hazardous state according to (A), (B), (C) and (D) below or otherwise identify them according to [(e)]**(3)(b)** below:

(A) Positive identification of the hazardous contents of pipe must be by lettered labels. The label must give the name of the contents in full or abbreviated form.

(B) The label must identify the contents with enough detail to identify the hazard.

(C) Label wording must be brief, informative and simple.

(D) Use stenciling, tape, adhesives, markers or effective alternative means for labels.

NOTE: Substances “transported in a hazardous state” typically refer to the hazards of pressure and temperature. Examples include compressed air, hot water or steam, and cryogenic liquids or gases.

(b) The employer may use an alternative warning method, instead of affixing labels to individual pipes, if that method identifies the pipe(s) to which the warning applies and conveys the hazard information required by this rule. Examples include signs, placards, process sheets, or schematics posted on walls in the work area; or other such written materials. These alternative written materials must be readily accessible to the employees in their work areas during each shift.

NOTE: See OAR 437-004-9800(5) Labels and other forms of warning for other related requirements.

~~[(b)c] Label pipes **or piping systems that use**[with] asbestos insulation **material to include the following statements:**[according to (b)(A) below, or otherwise identify them according to (3)(c) below:]~~

~~(A) [The label for pipe insulation containing asbestos must include the following:]~~

~~DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
DO NOT BREATHE DUST
AVOID CREATING DUST
[CANCER AND LUNG DISEASE HAZARD]~~

(B) Or, otherwise identify them according to (3)(b), above.

NOTE: See OAR 437-004-9800, Hazard Communication for Agricultural Employers and OAR 437-004-9050, Asbestos, for additional requirements.

~~[(c) The employer may use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials instead of affixing labels to individual pipes, if the alternative method identifies the pipe(s) to which it is applicable and conveys the information required by this rule. The written materials must be readily accessible to the employees in their work areas during each shift.]~~

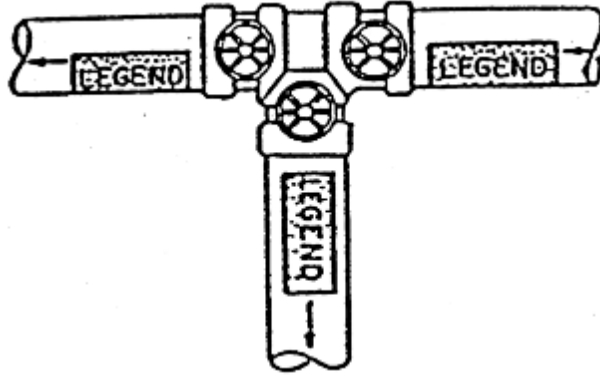
(4) Location of labeling.

(a) Place the labeling [where confusion may occur, such as]near valves or flanges;[and] adjacent to changes in direction[.]**or branches;**[and] where pipes pass through walls, floors or ceilings; **and where confusion about the contents of the piping system may occur.**

(b) Labeling must be **applied**, at a minimum, at the beginning and end of continuous pipe runs[; and].

(c) For asbestos insulation, labeling ~~must be at a minimum,~~ on unobstructed continuous pipe runs~~,~~ **must be at least** every 75 feet.

Illustration 1 - Location of Labeling



(5) Visibility.

(a) Where pipes are **located** above or below the normal line of vision, put the lettering below or above the horizontal centerline of the pipe, to facilitate visibility.

(b) If pipes are inaccessible, ~~and/~~ or at a distance that ~~precludes~~ **makes** clear identification of the letters on **a** label~~ing~~ **difficult**, use alternatives to ~~the~~ labeling that meet all other requirements of this rule ~~(i.e., schematics posted on walls in work areas)~~.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 4-2012, f. 9/19/12, ef. 1/1/13.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.

Appendix A to 437-004-9850 [for] Pipe Labeling (Non-Mandatory)

Table 1 - **General** Classification of Hazards of Materials **transported in pipes with** [and] Suggested [ions of] **labeling** Colors

Classification	Color Field**	Color of Letters for Legends
Materials Inherently Dangerous		
Flammable or Explosive	Yellow	Black
Chemically Active or Toxic	Yellow	Black
Extreme Temperatures or Pressures	Yellow	Black
Radioactive	Yellow	Magenta
Materials of Inherently Low Hazard		
Liquid or Liquid Admixture	Green	White
Gas or Gaseous Admixture	Blue	White

** Alternatives to the colors suggested [by] in Table 1 [may be] **are** acceptable if they meet all other requirements of **the pipe labeling rule** [this appendix] and are used consistently on all pipes in a given location.

- (1) Color may be displayed on the piping by any physical means, but when it is used it must be in combination with labels.
- (2) Color may be used in continuous, total length, or in intermittent displays.

Types and Sizes of Letters

- (1) There must be contrast between color field and letters for readability.
- (2) Use of letters of block lettering in sizes 1/2-inch (13 mm) and larger, is recommended. (Table 2)

Table 2 - Types and Styles of Letters

Outside Diameter of Pipe or Covering		Length of Color Field		Size of Letters	
in.	mm.	in.	mm.	in.	mm.
3/4 to 1 1/4	19 to 32	8	200	1/2	13
1 1/2 to 2	38 to 51	8	200	3/4	19
2 1/2 to 6	64 to 150	12	300	1 1/4	32
8 to 10	200 to 250	24	600	2 1/2	64
over 10	over 250	32	800	3 1/2	89

- (3) For identification of materials in pipes less than 3/4-inch (19 mm.) in diameter, and for valve and fitting identification, the use of a legible tag is recommended.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: OR-OSHA Admin. Order 4-1998, f. 8/28/98, ef. 10/1/98.

OR-OSHA Admin. Order 3-2014, f. 8/8/14, ef. 8/8/14.